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ORIGINAL ARTICLES.

CASES ILLUSTRATING THE VARIOUS FORMS OF CHRONIC DIFFUSE NEPHRITIS; MITRAL REGURITATION FOLLOWING ACUTE RHEUMATISM.

Clinical lecture delivered

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Chronic Diffuse Nephritis.—J. R., thirty-three years of age, single, a worker in the gas house, near the fire, where he is much exposed to becoming overheated and to draughts, comes to us with the following history. Family history negative. When thirty years old, he had typho-malaria fever, and since this attack he has never been quite well. Soon afterward he developed rheumatism in the left knee, of a subacute type—not having the fever, sweats, etc.

Six months ago he began to complain of pain in the right knee; at the same time the left leg began to swell around the knee, which extended downward to the foot. Two weeks ago there was present, as there is now, much œdema—especially of the right leg. One month ago his abdomen began to swell.

He says he would feel perfectly well now if it were not for the presence of some dyspeptic symptoms. You notice a peculiar pallor of the skin, which latter is also harsh and inelastic, as shown by pinching up a fold, which as you see returns to its former condition slowly. This is common to persons suffering from kidney trouble. He has no heart complications, as there exists no evidence of hypertrophy, and no murmur. His urine contains albumen, also a few hyoline and granular casts.

In these cases you frequently get no history of acute diffuse nephritis with rigors, fever, bloody and scanty urine; but, as in this instance, the trouble is chronic from the first, and begins insidiously. The different varieties of nephritis are much confused, many names being given to designate the same condition. There is a form of nephritis in which the epithelial lining is affected, having a history much like this, but without the occurrence of rigors, fever, bloody urine, and coming on insidiously with albumen and casts. It is known as chronic parenchymatous nephritis. Frequently it exists for a long time before it is made manifest by the occurrence of dropsy. The outward appearance of a patient is, however, no evidence of the amount of kidney lesion. There is one element in the causation of the effusion in this case which as yet has not been investigated. Gentlemen, cirrhosis of the liver is frequently associated with chronic diffuse nephritis, although this man tells us he has not been a steady drinker, yet as there is much effusion in the peritoneal sac I shall make physical exploration of his abdomen, and shall probably find evidences of cirrhoses. On inspection we find enlargement of the abdominal veins which is one evidence of cirrhosis of the liver. Percussion gives normal boundary of dulness above. By placing the patient on his left side, thus allowing the fluid to gravitate to the opposite side, we have tympanitic resonance extending one inch above the costal border, showing a contracted condition of the liver. When you are able to feel the anterior surface or lower border of the liver by making deep palpation (and you should always make the attempt), the organ will feel finely nodulated. I have not succeeded in reaching the liver in this case. The condition of cirrhosis of the liver, together with the other clinical features of this case, point clearly to the fact that we have here to deal with a case of chronic interstitial nephritis.

In these cases, at first, the prognosis is moderately good, but it becomes gradually more and more grave. Many symptoms are ascribed to kidney trouble which do not belong to it. When treating these cases, do not direct your remedies to the kidney lesion, but to the symptoms arising from the kidney trouble and to the indications not dependent on the kidney trouble. For the kidney lesion little can be done. The tinctura ferri chloridi combined with hydrarg. bichloridi often diminishes the amount of albumen and casts, improves the condition of the blood and relieves the anæmia, which is often pronounced. The chloride of gold and sodium, has yielded excellent results with me in a certain proportion of these cases. Among the symptoms arising from the kidney lesion dropsy is the most pronounced, as in this case. This is sometimes due to disturbed circulation. The dropsy is most effectually removed by producing free purgation; this, so far from being debilitating, is often comforting to the patient. Diuretics may also be given; generally. The old combination of comp. jalop powder, grains ten; calomel, grains five (given at night, is most effectual), can be used when the heart is unaffected. This I shall order for the present case, to be given at night. Additionally, I will prescribe a pill containing:

℞. Ex. digitalis, gr. 1-12.
Arsenic, gr. 1-24, powd.
Scillæ, gr. ½.
Sig. To be given three times a day.

Often, gentlemen, organic heart lesions are associated with chronic nephritis. There are those cases in which the heart trouble leads to nephritis, by producing first congestion of the kidney which finally passes into chronic diffuse nephritis. Secondly, those cases in which the heart disease follows the kidney lesion, more especially, hypertrophy of the left ventrical. Thirdly, those cases in which there

is chronic diffuse nephritis and chronic valvular disease in the same case, but the one not dependent upon the other. In these cases it is hard to tell which was the primary disease and equally hard to separate the symptoms of the one from those of the other. An example of the latter class I shall now show you.

Case 2.—M. R., aged forty-three years, is a housekeeper. Her family history is negative. One brother has had a slight attack of rheumatism, though neither of her parents were so affected. Her personal history is interesting. She was perfectly well until nine years ago when she had influenza; this was followed by the falling out of her hair and by inflammation of one eye. Six years ago, while living in Brooklyn, there appeared suddenly œdema of her limbs, which gradually traveled over her whole body. This attack was not preceded by rigors, fever and bloody urine. With the œdema, however, there occurred nausea, vomiting and headache from which she had suffered for many years; but more especially since the occurrence of the œdema six years ago. Under treatment the œdema almost entirely disappeared, some little lingering in the feet. During the four years following that first seizure she had no less than three similar attacks, recovering almost completely from the œdema and nervous symptoms after each subsequent spell. Last fall she caught cold which was followed by considerable swelling of the limbs, and later, of the abdomen. She also had much cough and great dyspnœa, with severe headache. Her urine contained albumen, though casts were not found on the first examination. The history, together with the œdema present, point to chronic diffuse nephritis. She has, however, an irregular action of the heart, with a mitral regurgitant murmur. It would be hard to determine whether the heart or the kidney lesion was the primary affection, as the disease has lasted so long, and is, at the time of our examination, so far advanced. As a result of the chronic valvular disease there is here venous stasis of all the organs, leading, among other features, to cough and dyspnœa, which was an alarming symptom when she first presented herself here for treatment. Congestion of the kidneys may have lead to the chronic diffuse nephritis. From the clinical history of this case, however, it would appear that the chronic nephritis was the antecedent condition. When the question of the primary affection cannot be definitely settled, we should look upon the two diseases as occurring independently of each other. Many seemingly serious cases of cough and dyspnœa with pronounced dropsy are improved by a regulation of the circulation. In treating this case the same course as indicated in the other patient would be applicable. The œdema must here be treated by mild purgatives, because of the heart complication; elaterium, grain one-sixth, will be given every second or third day; tinc. ferri chloridi for the albuminuria and blood. The heart lesion can be improved by digitalis, which will cause slower, more regular, as well as more powerful contractions of the heart, thus also allowing more time for nutritive changes to take place in the cardiac muscle, and increasing the arterial tension.

B. H., aged twenty-three years, a farm hand, gives us the following history: His mother had rheumatism six or seven years ago; otherwise family history is negative. Patient had never been ill until last March, when he had rheumatism. He has also noticed for some time that his limbs have been swollen during the day, which swelling, however, has not affected his joints. The swelling would entirely disappear during the night. This fact points to cardiac dropsy, though it may be due to renal trouble. At the present time, he also experiences some pain in the joints while at work; pain exists also when it rains or the weather is cloudy—a common fact in so-called rheumatic troubles—showing that there still is a rheumatic diathesis present. Further, there is some palpitation of the heart, which, however, has been present before, but has been made worse, since the rheumatic attack; slight cough exists, but no noticeable shortness of breath. With these few symptoms present we may find serious cardiac disease existing on making physical examination. Hence it is always necessary to make a careful examination in these cases. If after such an investigation we detect no lesions, we may safely infer that he had been troubled with functional heart complaint before, as well as since, the onset of the rheumatism. Inspection shows the cardiac impulse to be somewhat exaggerated and extended; one evidence that there is some degree of enlargement of the heart. On palpation the apex beat is found to be marked, and more extended in all directions than normally. There also exists a thrill, which indicates a regurgitant lesion; it is systolic in rhythm, and felt over the apex.

On percussion, cardiac dulness begins at the fourth rib, extending thence to the left, to a point a little beyond the nipple line, showing but slight enlargement. Dulness is not extended far beyond the mid-sternal line, so that there is but little enlargement of the right ventricle, nor would any be expected from so short a history.

Auscultation reveals a systolic murmur taking the place of the first sound, continuing up to the second, indicating a mitral regurgitant lesion. There may have existed here a chronic endocarditis, which would then complicate the recent rheumatic lesion, making the latter difficult of diagnosis.

This patient's urine contains a considerable quantity of albumin, and a few tube casts. So long as compensation is not broken, so long the prognosis is favorable in cases of mitral regurgitation. In this patient's case, however, there has been some failure of compensation, as shown by the presence of œdema and other symptoms, the renal lesion being secondary. In the case before you, then, the prognosis is grave; and yet, contrary to the old view, that once secondary dilatation comes on, it cannot be overcome—the prognosis is not positively bad; since, under proper treatment, the disturbed balance between the cardiac lesion and the circulation can be restored and the case progress favorably for a considerable length of time.

In the treatment of this patient's condition, much can be done. As a consequence probably of the rheumatism, there exists anæmia, as shown by the pallor of the tongue, lips and conjunctivæ. The first object to be attained is to improve the condition of his blood, then to regulate the force and frequency of the cardiac contractions. For the blood iron is to be used. For the heart there are various drugs, among them being strophanthus and digitalis. We will give him digitalis. The action of digitalis must, however, be watched, by observing the effect on the urine. If the amount of urine is increased the drug

is doing good. Both indications will be met by the use of the following pill:

℞. Ext. digitalis, grain ⅛.
Ferri sulph. exsic., grain 1.
Ext. nucis vomicæ, grain 1-12.
Acid arsenici, grain 1-24.
S. To be taken three times daily, after meals.

CATARACT OPERATIONS.

Clinical lecture delivered at the Illinois Charitable Ear and Eye Infirmary, January 4, 1893.

BY W. T. MONTGOMERY, M.D.,
OF CHICAGO.

On account of the holidays we have an accumulation of cases for operation to-day and among them several cases of cataract. This will be our subject to-day. We have cases illustrating different phases of this disease, and will present them and speak of them as we go along.

Case 1.—We have here first a patient who had double cataract. James S., aged 64, farmer, was first admitted into the infirmary nearly two years ago with mature cataract in right eye and immature in left eye. I then made a simple extraction on the right eye, leaving as you see a round, natural pupil. When I illuminate the area of the pupil by focusing the rays of light by means of this strong double convex lens, you will see stretching across the pupil a grayish white band. That is the remains of the capsule, and interferes more or less with his vision. He has, however, been able to see and get along very comfortably with the cataract glasses since the operation. But now he has returned with mature cataract in the left eye. On account of this band of capsule in the right eye, will to-day simply divide it with the needle and probably by next week perform extraction on the left eye.

The right eye in this case illustrates what is known as capsular or secondary cataract. The capsule or shell of the cataract is left in the eye, but in most cases where the extraction is made with an iridectomy the capsule is so freely lacerated that it curls up beneath the iris out of the pupil. In extraction without iridectomy or simple extraction, as was made on this eye, the capsule is not so freely lacerated and in a large per cent. of the cases a secondary operation is required. The best time to perform this secondary operation is within from three to six weeks after the first operation. The reason it was not made in this case was because sufficient time had not elapsed before the patient returned home. This needle or secondary operation is very simple indeed, but is not devoid of danger. The pupil is widely dilated, with a one per cent. sol. atrop. sulph., and the eye has been rendered anæsthetic by two or three instillations of a four per cent. solution of cocaine. The lids are separated by the speculum, the globe is fixed by forceps, and the cornea is penetrated with Knapp's sickle needle and the band is divided, care being taken not to drag forcibly on the iris or plunge the needle deeply into the vitreous. Now that the membrane has been divided the needle is quickly withdrawn so as to permit as little escape of aqueous as possible. The one per cent. solution of atropia is again instilled into the eye, the bandage applied, and the patient will be kept quiet for the next twenty-four hours. If there is then no reaction, the bandage will be left off and the eye protected by the student's shade.

Case 2.—J. D. M., aged 35, fireman. Cataract, mature, in right eye, left eye normal. It is unusual to get cataract in one eye at the age of thirty-five in a healthy person unless it is the result of an injury. There is no history or trace of injury in this case. No matter what the cause has been this man is here with a mature cataract in one eye while the other eye is perfect and he wants to know what can be done for him? What can we do for him? Is it advisable to operate for the removal of cataract from one eye while the other is perfect? There are arguments both for and against the operation in such cases. In my judgment the points are decidedly the stronger in favor of the operation if the cataract is uncomplicated. Testing this case in the dark room we find his perception of light is good and that his fixation is good, that is, he sees the light equally well from any direction from which it is thrown into the pupil I need not remind you that cataract is a disease of the lens, rendering it opaque, and when it is removed the eye is minus its lens, and that vision will be imperfect unless this is compensated for by a strong double convex lens placed in front of the eye.

The indistinct vision of the eye operated upon is, in some cases, confusing to the good eye, and it is impracticable to wear the strong lens on one eye. This is the strong point against the operation. On the other side, a person with one eye has a blind side and is much more liable to accident on the street. Removing the cataract in a case of this kind restores the blind side and so enlarges the field of vision. The eye operated on will be in reserve for the future.

If anything happens to the good eye, adjust the proper cataract lens and it is ready for service. Again, the operation gets rid of the deformity and this is an important matter to young persons.

Now, as we have decided to operate, what operation shall we make? Extraction, of course; and simple extraction is decidedly the best operation, for it leaves a round natural pupil to match that of the other eye.

For the last three years my practice has been to attempt simple extraction in all cases of uncomplicated cataract where extraction was indicated. If the cataract is not readily delivered through the pupil without bruising of the iris, I do not hesitate to make the iridectomy, converting the simple extraction into extraction with iridectomy. This eye has been cocainized with a fresh 4 per cent. solution of cocaine. The instruments, except the cataract knife, have been immersed for a few minutes in boiling hot water. The knife-blade has been immersed in alcohol and wiped with a soft bit of linen, and its point and edge have been tested. The closed eye has been sponged off externally with a saturated solution of boracic acid. I do not put the solution into the eye because the conjunctiva is healthy, and I consider the healthy secretions of the eye the best antiseptic for it. The incision includes about one-third of the cornea, and is made as nearly as possible entirely through the sclero-corneal junction. The capsule is opened with the cystotome and the cataract is readily extracted through the pupil, and this has resumed a central position. The blood is removed from the eye, and the edges of the wound are accurately coaptated. One drop of a solution of eserine sulph. gr. i to ʒi, is instilled into the eye. The lids are closed and a bit of soft linen moistened in the boracic acid solution is applied, then just sufficient absorbent

cotton to even up the orbital depression, and lastly the gauze bandage. This consists of ordinary mosquito netting, cut one and three-fourths inch broad, and four yards long. It is applied moist, and the starch in it is sufficient to set it and hold it in place. This dressing is light and comfortable, and keeps its place the best of any I have tried. It is the dressing that has been almost exclusively used in this infirmary for the past eight years. The patient will be put in a moderately darkened room and permitted to sit up or lie down as he feels inclined. He is permitted to use his good eye just sufficient to help himself. If the eye which has been operated on remains comfortable the dressing will not be removed until the third day. Then the dressing is changed, a drop of the 1 per cent. solution of atrop. sulph. is instilled between the lids. This is repeated the fifth day and the seventh, when we usually find the wound closed, and we substitute the shade for the bandage and permit the patient to leave his room.

Case 3.—J. W. C., age forty-six. Carpenter, cataract, right eye immature, left eye incipient. The vision of right eye first began to fail three years ago, and this failure has slowly increased until now the patient can only count fingers at five feet in a good light. The left eye first began to blur eight months ago, and at present he can count fingers at twenty feet. Eyes otherwise healthy and general health good. Here we have a man in the prime of life, in good general health, with a family dependent upon him and who is anxious to work, but who, while he can yet see to get around, is practically blind so far as working at his trade is concerned. He has come here for relief. Medical treatment will not arrest the formation of his cataracts, nor clear his vision. Surgical interference for their removal is not indicated in the condition they are in at present. Then what can be done for him? But before we answer this question, I will define what is meant by the terms incipient and immature as applied to cataract. In senile or hard cataract the progressive changes which occur are divided into four stages. *First*, incipient; *second*, immature; *third*, mature; *fourth*, hypermature. Cataract is incipient from the first appearance of opaque spots or lines in the lens up to the time when there are no longer any transparent spaces between these opaque portions, so that the details of the fundus of the eye cannot be seen with the ophthalmoscope. By immature is understood that degree of opacity beginning with the ending of the incipient stage to a point short of complete opacity of the lens. As long as the opacity of the lens is not complete, the iris casts a shadow upon it. This comes from the opaque portion of the lens, upon which the iris-shadow falls, lying some distance behind it. The shadow is best seen by placing a light to one side of the patient and near the eye. Vision in this stage varies from ability to count fingers at fifteen or twenty feet to simply being able to count them in a good light near to the eye. Cataract is mature or ripe as soon as the entire lens becomes opaque. As a rule vision is reduced to seeing the motions of the hand or the direction of a light. After cataract has been mature for one or more years degenerative changes begin to occur. Then the fourth or hypermature stage is reached.

The time for operative interference is as soon as possible after the cataract is mature. That stage has not been reached by either eye of the patient before us. Now, there is one of two things that we can do in a case of this kind. One is to send the patient home, to be a burden on his family, it may be for two or three years, until his cataract matures. The other is to make some one of the operations for maturing cataract upon his right eye. This is one of a class of cases in which such an operation is not only justifiable, but is positively indicated. We will make the operation for ripening on the right eye now. The operation I prefer is known as Förster's operation for maturing cataract. The eye is prepared as for extraction. The incision is made with the triangular keratome through the upper sclero-corneal junction and a segment of the iris removed. Now, while the anterior chamber is empty, we gently knead the lens by pressing with a rotary motion upon the cornea with the knuckle of this strabismus hook. Any smooth blunt instrument can be used for this. The precautions which it is most important to observe in the performance of this operation are: *First*, confine the trituration to the area of the pupil and coloboma, so as not to pinch or bruise the iris. *Second*, do not make too much pressure, or you may dislocate the lens. *Third*, keep the cornea moist while the trituration is being done. I have performed this operation more than fifty times, and have not had any severe reaction in any case. As a rule, eyes have recovered from it as quickly as from a simple iridectomy. In a few cases there was not any appreciable effect upon the cataract, but in a large per cent. of the cases there was marked increase of the opacity by the next day, and in a number I was able to make extraction successfully at the end of two weeks. This eye will be dressed the same as after extraction, and the patient kept quiet for two or three days. If there is no reaction the shade will be substituted for the bandage, and the atrop. solution dropped in the eye once daily until all redness has disappeared.

Venetian Building.

MINERAL WATERS CRUDE AND REFINED.

BY H. D. DIDAMA, M.D.,
OF SYRACUSE, N. Y.

An examination of the analyses of the various mineral waters of the United States and elsewhere, seem to warrant these statements:

1. Many of the waters, like those of Saratoga, Carlsbad and Crab Orchard, contain a cathartic salt in such quantity that from half a pint to a quart of the beverage will act as an efficient laxative. One excellence of these purgatives is that they can be taken daily for an indefinite period without injury.

2. The activity of a salt designed to move the bowels is much impaired by excessive dilution. A saline solution, whose specific gravity is less than that of serum, passes by osmosis largely into the blood and out at the kidneys, instead of drawing water from the circulation and acting as a laxative.

3. Many, indeed most of the really valuable natural, crude, mineral springs contain ingredients which in quantity or quality are detrimental. The famous Sprudel Spring and many others, whose active principle is Glauber's salt, have too large a percentage of lime. The Saratoga waters contain too much sodium chloride, as well as calcic salts. The aqueous beverage now indulged in by Syracuse people at home (soon to be displaced by the sparkling

and bright Skaneateles Lake water) is decidedly hard. But it contains only two and a half grains of lime salts in a pint, while Congress and Hathorn contain respectively more than twelve and fourteen grains. Apropos of these waters, it may be remarked that Congress has nine grains of carbonate of magnesia and fifty grains of common salt in a pint. Hathorn has but three more grains of the magnesium salt and thirteen grains more of the sodium chloride. And yet the genial and reverend Theodore Cuyler, who summers at a sanitarium in Saratoga, ventures the assertion that "Hathorn water is as pungently drastic as high Calvinism; but the Congress Spring has a somewhat milder quality, about like the modified Calvinism recommended by the revision committee. Congress water is about the right thing after all for a regular morning potation."

Lithia Springs contain the material from which their name is derived in such minute quantity, that a person must imbibe one or two gallons of the water to obtain a medium dose of the medicine.

4. An ideal—artificial—refined water, which shall not contain objectionable ingredients and which shall possess in a concentrated form all desirable qualities at a reasonable price can be manufactured by any capable chemist.

The Virginia Buffalo Lithia Springs have but two grains of lithium salt—with thirty-nine grains of lime—in a gallon; while an artificial lithia water (called, funnily enough, "Hudor water") contains forty-six grains of lithia in a gallon, with all faulty and useless substances left out. So that this artificial product, when lithium is required or desired (one gallon being equal to a barrel of Virginia water) is immensely superior to the crude natural variety.

5. But it is well enough to remember that no salt of lithium is equal in its solvent power over uric acid to the same quantity of citrate of potassium.

6. Vaunted Springs, which like the Poland and others, contain hardly an appreciable amount of any mineral (the Poland having a total of about three grains to the gallon, two-thirds of this being lime and silica) may still be beneficial if used in the enormously large large quantities directed and urged by their proprietors.

Their location may be where the air is invigorating and germless; where the weary invalid is liberated from the care of business, relieved to some extent of the deceitfulness—certainly of the plethora—of riches, and flushed out every few hours with an amount of fluid for which he never dreamed he had a capacity.

Divesting himself of prejudice, he would probably find that an equal quantity of pure water at home would (so far as the water is concerned) be equally beneficial. And (it is well to consider) the pecuniary condition of the average patient will not allow the luxury of a distant journey, and a board bill of five dollars a day.

7. The notion that the natural heat of the earth imparts to water any virtue which could not be derived from solar or stove heat has no scientific nor experimental foundation. Natrium iodidum is known to be a potent weapon in the armamentarium of the Hot Springs medicine man.

The writer has never sent a patient to the National Calidarium, but he has treated with satisfaction several who have returned unbenefited from that popular but somewhat compromising resort.

CALCIUM SULPHIDE IN THE TREATMEMT OF PULMONARY TUBERCULOSIS.

BY EDWARD F. WELLS, M.D.,
OF CHICAGO.

In this paper the profession is invited to consider anew the claims of an agent in the therapeutics of pulmonary tuberculosis—one which has long attracted and held my attention and in which I take great present interest. I refer to sulphide of lime—or as dispensed, sulphuretted lime—or other agents which liberate sulphuretted hydrogen in the system.

My attention was first drawn to this subject in 1883 by the following case:

Case 1.—Mrs. P., aged thirty-six, of phthisical family, came under my care in 1883, with the ensuing very interesting history:—Eight years previously she had an attack of a peculiar form of herpes zoster, affecting the left side of the forehead and face and the infra-clavicular portion of chest. Severe ulceration resulted, with the occurrence in the vicinity of numerous superficial abscesses, and fourteen weeks elapsed before cicatrization was completed. Subsequently she had several attacks, affecting the same regions and always giving rise to a crop of furunculi and tedious ulceration. She was the mother of several children, the youngest eighteen months old. During her last pregnancy she had a slight hæmoptysis. Following this and after her confinement there appeared cough, further hæmorrhages, anæmia, shortness of breath, muco-purulent expectoration, night sweats, emaciation, loss of strength, etc. There had been no attack of herpes for nearly two years and she had not menstruated for five months.

Her pulse was about 100, irrespective of position, but exertion raised the rate and developed palpitation. There was a well marked cervical murmur. The respiration rate was twenty-eight when at rest, increased one-half or more on exertion. Temperature elevated from one to three degrees. There was infra-clavicular and apical dulness, most marked on the right side. In these regions and above the scapulæ there were râles, with prolonged expiration of tubular quality. Here and there moist râles would broaden out, suggestive of gurgling, but cavities could not be demonstrated. The expectoration was, in the morning, thick and quite characteristic. Her weight was 104 pounds.

Soon after coming under my observation an abundant eruption of herpetic vesicles appeared, which went on to suppuration and the development of small abscess as on previous occasions.

It was at this time and under these circumstances that she was given one-fifth grain of sulphide of lime every three hours. When seen after a week she said:—"For three days the expectoration was increased after which it became markedly diminished; my cough is better and the night-sweats have ceased." The remedy was continued thrice daily, until the abscesses ceased to appear, a period of several weeks, when it was suspended. After this fever gradually developed, the cough became more severe and night sweats reappeared and, at the request of the patient, the sulphide was resumed, with a repetition of the previous experience. For a few days the expectoration was increased, followed by diminution and improvement in the general symptoms. Subsequently it was appealed to—and never in vain—whenever the cough became heavy, with a sensation of fulness in the chest, fever and night sweats.

The general treatment was varied to meet changing conditions and the symptoms gradually improved until after eighteen months of treatment she had so far recovered as to consider herself well. Early in 1886 I examined the patient and made the following note:—"She has the appearance of health and weighs 130 pounds, a weight never before attained. Pulse sixty-eight lying and eighty standing. Her breathing ranges from sixteen to twenty. There has been no cough for a year and no expectoration for eighteen months. Resonance is not noticeably impaired and, aside from slight roughness on inspiration and a faint tubularity on expiration, together with slight intercostal recession below the right clavicle on inspiration, there are no physical signs." This lady was in good health in July, 1888.

Following this I fell into the habit of prescribing sulphide of lime in those cases of phthisis in which were present in combination copious purulent expec-

toration and an elevated corporeal temperature. The frequency—I may say uniformity—with which the febrile symptoms quickly subsided, and the character of the expectoration altered and its quantity diminished, were so striking that I was led, under these circumstances, to appeal to this drug with gradually increasing confidence in the large number of cases then coming under my care.

With this preliminary experience the advent of the Bergeon treatment found my mind in a very receptive mood, and I took it up with enthusiasm. To be sure I never expected from it more than any mode of management can accomplish, and my experience was therefore satisfactory. I soon discovered, however, that sulphuretted hydrogen, *per anum*, effected exactly what sulphide of lime, *per orem*, had previously done for me, and no more. I therefore soon resumed my former practice, broadened and confirmed in its efficacy.

While yet employing Bergeon's method, and thinking there might be some special advantage in introducing into the system sulphuretted hydrogen in a free state, I began the use of mineral waters containing this gas in large quantity, and have continued the practice to the present time. The results of this line of treatment have been equally marked and in the same direction as those above mentioned. Several practical objections, however, have been encountered, one of the most common being the difficulty patients meet with in taking the waters for any great length of time without engendering disgust. On the whole my experience with waters of this class has been quite satisfactory, although I have not been able to convince myself that they are superior to the use of sulphide of lime, yet I find myself prescribing them in suitable cases whenever practicable.

Case 2.—A young business man, aged twenty-two, with a family history fairly bristling with instances of phthisis, came under my notice December 7, 1889. Two months previously he had had slight hæmoptysis, followed by cough, which in the morning was severe and accompanied by a tenacious muco-purulent expectoration very difficult of extrusion. Fleeting thoracic pains were prominent. There were present, especially marked above the scapula on the right side, roughened inspiration and prolonged expiration and, on deep inspiration, fine crackling. During the two months he had had two febrile attacks of short duration. He began the use of Martinsville waters in large quantities and continued them for nearly a year. His symptoms gradually declined and the expectoration, which was at first augmented in quantity and laden with bacilli tuberculosis, soon ceased and the cough, after abortive attempts, permanently disappeared in April. He continues well.

Case 3.—A young lady, aged 27, consulted me last July with the following very suggestive history:—Puberty occurred at 11 years. At 15 the menses disappeared and were absent for fourteen months, and at this time she was considered as having pulmonary consumption, she having had a cough, purulent expectoration, night sweats, hæmorrhages, emaciation, etc. After several months she was taken to one of the Kentucky sulphuretted springs, where, under the free use of the waters she gradually but completely recovered. There are now no evidences of previous pulmonary disease.

Sulphide of lime—or more correctly, as dispensed, sulphuretted lime—administered in doses of from one-fourth of a grain to one grain thrice daily to a tuberculous patient will usually produce the following results:—*a*. If there is scanty and difficult expectoration, with elevated temperature and night sweats, free and easy expectoration, with reduction of the fever and cessation of the night sweats, is speedily brought about. *b*. If there is present a free muco-purulent expectoration it is for a few days greatly increased in amount and is rendered more purulent. In either case after a few days the expectoration diminishes in quantity and becomes less purulent, with a corresponding improvement in the patient's general condition. That these effects are due to the drug in question and not to coincidence may be readily demonstrated by even a limited clinical experience.

I usually prescribe sulphide of lime for the cases under consideration in combination with strychnia and arsenic as in the following formulæ:—

℞. Calcii sulphurata, gr. xv.
Strychninæ sulphas, gr. j.
Acidum arseniosum, gr. jss.
Ulmus, pulv., q. s.
M. ft. capsul. No. LX et sig.:—One or two capsules three times a day.

℞. Calcii sulphurata, gr. xxx.
Strychninæ sulphas, gr. j.
Acidum arseniosum, gr. jss.
Ulmus, pulv., q. s.
M ft. capsul. No. LX et sig.:—One or two capsules three times a day.

Inasmuch as the object aimed at in prescribing sulphide of lime is to introduce into the system sulphuretted hydrogen, it is of prime importance that the drug be prescribed and manipulated in such manner that its activity shall remain intact up to the time of its administration. It is for this reason that the druggist should be directed to encapsulate the powder *dry*. The powdered elm is introduced into the formula for the two-fold purpose of insuring dryness of the powder and preventing a too rapid elimination of the gas when the medicament has reached the stomach.

Other medicinal agents are employed to meet special indications and no plan of management is persisted in when experience shows it to be useless or detrimental in the individual case. The diet and regimen are carefully supervised and, whenever it can be consistently done, the patient's hopes and anticipations are fostered and sustained. In short, this paper is offered in a spirit of conservatism as a tribute to the value of *one* of the many useful means of combatting phthisis—the greatest scourge of the human race.

A COMBINED WATER AND ALBUMEN METHOD OF FIXING PARAFFIN SECTIONS ON THE SLIDE.

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Ever since anilin staining methods have been in vogue, there have been demands for a perfect method of fixing sections of tissue on the slide, preparatory to the staining. This demand has arisen from two conditions peculiar to anilin staining processes. The first condition is that only *sections* of tissue can be stained by any of the processes thus far perfected; that is, it is impossible to stain a piece of tissue in the bulk with the anilin dyes, as can be done with carmine and hematoxylin. The second condition is, that the sections are often so delicate that they are torn or lost in the manipulations required in the process of staining in the watch glass. To meet these difficulties, it has long been the practice of microtomists to secure the sections to the slide;

this procedure being termed, "fixing sections on the slide."

Numerous methods of fixing sections on the slide have been proposed, and in these methods various adadhesive mixtures (technically called "fixatives") have been employed. For instance; collodion, shellac, gutta-percha or caoutchouc, gum arabic, gelatin, egg albumen, etc., have been used in a variety of combinations by various workers. These "fixatives" have many functions aside from those performed in anilin staining, and for certain purposes, each of these mixtures has its peculiar merits. An excellent summary of these methods is given by Lee.[1]

For the purpose of fixing sections of paraffin imdedded tissue on slide, preparatory to anilin staining, the albumen fixing method as devised by Dr. Paul Mayer[2] has, until the last year, enjoyed a deserved preference. Mayer employed a mixture of egg albumen and glycerine, as the adhesive medium. This was painted on the slide by a fine brush, the sections were placed in position, the slide gently warmed until the paraffin melted when the section was securely fastened in position, and the succeeding steps in the preparation could be concluded without fear of displacing or tearing the section. While this albumen fixative has many points of excellence, there are, nevertheless, some serious drawbacks to its use, as must be the verdict of every one who has employed it. In the first place, it is exceedingly difficult to *flatten* delicate sections when once they are placed on the layer of albumen; this being particularly true of sections which have become folded or wrinkled during the cutting, and with ribbons of delicate sections. Again, it is almost impossible to change the position of a section after it has fallen on the slide, without danger of serious damage. Finally the layer of coagulated albumen often retains the dye to the extent of injuring the preparation—this being particularly true where "contrast" stains, as eosin, anilin blue, etc., are employed.

With the object of overcoming the manifest imperfections of the albumen fixative process, Gulland[3] has devised the excellent *water method* of fixing paraffin sections on the slide, the principle of this method being that of simple adhesion. In brief, this method consists in transferring the ribbon of serial sections, cut by the microtome, to a shallow dish of water slightly warmed, but not warm enough to melt the paraffin. Here the sections at once *flatten beautifully*, and after being cut into smaller ribbons, are guided into position on a slide immersed in the dish of water. When the required number of sections have been floated on the slide, it is carefully withdrawn from the dish, set on end, and allowed to drain and then removed to the warming oven in which the water gradually evaporates. A very necessary precaution is, that the temperature of the warming oven be a few degrees below the melting point of the paraffin surrounding the sections, for the paraffin must not be melted until adhesion is complete. The time necessary for perfect fixation naturally varies according to the thickness and number of the sections. Under the most favorable conditions, at least an hour's warming is necessary; but more often it will be found that twelve to twenty-four hours must have elapsed before the adhesion is perfect. It is plainly evident that this loss of time is a serious disadvantage of Gulland's method. Moreover, for some unaccountable reason, certain sections refuse to adhere to the slide in spite of the greatest care in the details of the method, this being notoriously true of sections of tissue killed in Flemming's solution. The great advantages of the water fixing method lie in the absolute certainty with which the sections may be flattened, and in the absence of a foreign medium between the slide and the adhering section. Obviously, the manipulations in a dish of water as originally practiced by Gulland, are often awkward and undesirable, and particularly in the case of single sections. Then the task of guiding a number of ribbons into position on a slide immersed in a dish of water, is no small one for inexperienced hands. For these reasons, an improvement on Gulland's process was not long in coming.

The modification of the water fixing method proposed by Heidenhain,[4] has many excellent improvements. The method[5] as described by its originator, consists in wetting the surface of a clean slide with a cloth dampened with distilled water, and then placing a drop of water on the center of the slide over the surface to be occupied by the section. The section is now transferred to the layer of water on the slide, and the slide then laid on a warming plate, or in a warming oven, until the flattening of the section is complete, when the excess of water is drained away by a piece of filter paper. The evaporation of the water must be effected at a temperature just short of melting the paraffin, as in Gulland's process. Finally, when the section is fixed on the slide, the paraffin is gently melted and the slide immersed in a jar of xylol or benzine, where the paraffin is dissolved. Of course if ribbons of sections are to be mounted on the slide, a more extensive layer of water is to be applied before bringing the sections into position. The improvements of this process on the original water method lie in the ease with which sections are manipulated on the slide, and the greater rapidity of fixation on account of the diminished amount of water on the slide. Still the adhesion is not perfect in less than an hour of drying, and usually several hours' evaporation must be permitted, before the sections are fixed with sufficient security to admit of the various baths in xylol, alcohol, water, stains, and other media required in the preparation. As in Gulland's method, some sections refuse to adhere to the slide after Heidenhain's process, and here again the Flemming fixed tissue shows its peculiar obstinacy.

From the foregoing it must be clear that, with all their points of merit, the water fixing processes are not without their serious drawbacks. Especially are these felt when it becomes necessary to fix some delicate, wrinkled or curled section on the slide, and complete its preparation in the shortest possible time; or when, after fixing some choice section to the slide, one is rewarded for his pains by seeing it float away in the jar of alcohol, or water, or staining solution. The ordinary microtomist is an impatient fellow, and he does not complacently wait several hours for the drying of a section, nor does he accept

[1] A. B. Lee, The Microtomist's Vade Mecum. Second edition. London, 1890, pp. 172 to 183.
[2] Mitth Zoolog. Station zu Neapl, iv, p. 321, 1883.
[3] Journal of Anatomy and Physiology. Vol. xxv, p. 56.
[4] Festschr, Albert von Kölliker, Leipzig, 1892, pp. 109–166.
[5] Heidenhain's methods were described in detail by the writer in the Medical News, Vol. lxi, No. 21, 1892.

with good grace, the loss of a valuable specimen. This has led experimenters to a trial of various rapidly evaporating solutions, instead of the water of the Heidenhain process; but so far as is known, no absolutely reliable substitute has been found, for it appears that the element of time in evaporation has much to do with the success of the water method.

While experimenting in this direction with some of his associates, the writer hit upon the idea of *combining* the water and albumen fixing methods in fixing the sections in position. Why could not the flattening properties of the water be combined with the infallible adhesive properties of the egg albumen, in fixing a section on a slide? An extensive trial of the method founded upon this idea has convinced me of its merits, and while no claim to absolute perfection is made, still the process offers several advantages over either of the described single processes, as will be evident on practicing the procedure here outlined. The details of the method as here proposed, may doubtless be modified to advantage without violating the principle.

The surface of a perfectly clean slide which is to be occupied by the section or sections is covered by a thin layer of Mayer's albumen fixative. In obtaining this layer of albumen, the ordinary plan of "painting" with a camel's hair brush is faulty, because minute bubbles are incorporated in the layer of albumen, which interfere with perfect fixation. A better plan consists in first "painting" a layer of fixative on the slide with the brush, and then smoothing the layer by drawing across its surface the straight, narrow edge of a perfectly clean slide. Care must be taken in this step not to remove too much of the fixative, for a certain definite quantity (only to be learned by experiment) must remain on the slide. A smooth layer of albumen fixative, free from bubbles, being spread on the slide, a drop of distilled water is now brought in contact with the surface of the albumen; or, where a number of sections are to be mounted on one slide, several drops of water may be required. The water spreads in an even layer on the surface of the albumen. The dropping may be performed by the aid of a medicine dropper, a pipette, or by a wash bottle. The sections are laid on the surface of the water, and when the requisite number are thus transferred, the slide is carefully heated. The writer usually effects this preliminary heating by holding the slide at the proper distance above the flame of a Bunsen burner, or the flame of a petroleum lamp. Watching the sections carefully as the warmth increases, they may be observed to flatten gradually until every wrinkle or inequality is erased; and at the end of a minute, or even less, the flattening is complete. At this stage care should be exercised to make the heating somewhat gradual, *and the paraffin must never be allowed to melt.* Should a beginning melting of the paraffin be observed, a brisk blow of air upon the slide will often cool the water sufficiently to check the melting. Should it be discovered, at this stage of the process, that the proper position on the slide is not occupied by the section or sections, this may be remedied, for the sections are readily moved as they float upon the layer of water. Having flattened the sections, the excess of water is removed by allowing it to drain from one edge of the slide, and this is assisted by absorbing the water about the sections with a piece of clean filtering paper. The remainder of the water must now be evaporated, and this is effected by placing the slide in a warming oven, on the surface of a paraffin bath, or in any place where the temperature is slightly below the fusing point of the paraffin; for until the evaporation of the water is complete, the paraffin must not be allowed to melt. On a pinch, the evaporation may be procured by waving the slide to and fro at the proper distance above a gas or lamp flame. If the draining and absorption of the water has been carefully carried out, the evaporation takes place with rapidity. At most, *ten minutes* should be allowed for this proceeding, and at the end of this time, the water being entirely evaporated, we have our sections properly flattened, and adhering to the slide by a layer of Mayer's albumen fixative.[6] It only remains to melt the paraffin; when the slide is plunged in a jar of xylol or benzine, then into alcohol, and the staining carried on according to the rule.

It will be noticed, in following this method, that the excess of albumen fixative has been removed from about the section, so that little of the difficulty of an excess of albumen will be encountered. Sections of all kinds, single and in ribbons, large and small, smooth and wrinkled, will be found to flatten as if by magic under the influence of the layer of warm water. To this rule there is but a single exception, and that is in the case of sections folded in such a manner that one surface adheres to another —as for instance; one section lying above, and adherent to another. In this case the two layers will flatten; but obviously, they will not separate. This accident may be prevented by stretching the section, or by smoothing out the suspicious layers before the paraffin warms. This accident is not of more frequent occurrence than when Heidenhain's method is practiced; and as a matter of fact, the combined method offers all the good features of Heidenhain's procedure, with the additional security of perfect adhesion.

A trial of the combined water and albumen process, in the laboratory, extending over a period of nearly two months, has convinced the writer of its advantages. Sections of tissue killed in a variety of agents; as Flemming's solution, Carnoy's solution, corrosive sublimate, absolute alcohol, chromo-acetic acid, etc.; are all fixed on the slide with perfect security, and admit of the most complicated methods of staining. In the case of single, small sections, they could be fastened to the slide and ready for the paraffin solvent in two or three minutes; the sole source of heat for the operation being a petroleum lamp, or a gas-burner. With larger sections, or with ribbons, from five to ten minutes were consumed in the drying; but in no case was it found necessary to prolong the evaporation more than *ten minutes.* This saving of time, then, is another merit of the combined method. It is not intended to convey the idea that there were no failures, for at first it was often found that a section would be washed from the slide; but more experience served to indicate the faulty steps, and these were easily corrected. From this it may be concluded that, with a little practice, and an intelligent modification of erroneous steps, the process of fixing sections on the slide by water and albumen may be conducted with perfect ease, and with an assurance of perfect results.

[6] The formula for Mayer's albumen fixative as given by Lee (loc. cit.), and employed by writer is as follows: White of egg, 50 c. c.; glycerine, 50 c. c.; salicylate of soda, 1 gram. Shake well and filter through flannel.

SOCIETY PROCEEDINGS.

American Electro-Therapeutic Association.

Second Annual Meeting, held in New York, October 4, 5 and 6, 1892.

WILLIAM J. MORTON, M.D., PREST.

THIRD DAY, OCTOBER 6—EVENING SESSION.

(*Concluded from page 424.*)

SOME SUCCESSES AND FAILURES WITH ELECTRICITY IN GYNECOLOGY.

By A. Lapthorn Smith, B.A., M.D., M.R.C.S. England, Fellow of the American Gynecological Society, Fellow of the American Electro-Therapeutic Association.

My experience with electricity in gynecology has been limited to:

1. Positive galvano punctures.
2. Negative galvano punctures.
3. Positive intra-uterine applications of galvanism.
4. Negative intra-uterine applications of galvanism.
5. Sacro-abdominal applications of galvanism.
6. Vagino-abdominal applications of galvanism.
7. Intra-uterine bipolar fine-wire faradism.
8. Vaginal bipolar fine-wire faradism.
9. Intra-uterine coarse-wire bipolar faradism.
10. Vaginal bipolar coarse-wire faradism.
11. Vagino-abdominal coarse-wire faradism.

Positive Galvano Punctures.—I have had one very marked success with positive galvano puncture in a case of enormous uterine polypus, in a patient who was so exhausted with hæmorrhage that no surgeon would dare to give her an anæsthetic in order to remove the polypus, which was the size of a seven months' fœtal head, and nearly filled the pelvis. Half a dozen positive galvano punctures were made into the tumor as a palliative measure, with the result that the hæmorrhage and profuse watery discharge were stopped, and the patient improved so much in health that she would not entertain the proposal to remove the tumor, apparently suffering no inconvenience from it. I followed her up for about a year, since which I have lost track of her. Although I employed currents of 150 m., the treatment was absolutely devoid of pain.

On the whole, I am opposed to galvano puncture, having lost one case through an error of diagnosis and neglect of strict antiseptic precautions, and having, in another, caused a good deal of suffering without proportionate results. My chief objection to it, however, is that it almost surely causes adhesions which, in case of the necessity ever arising for removal of the uterus, would greatly increase the difficulties of the operation. A minor, but still important objection to punctures is that they frighten the patient away from continuing the treatment. I have to record one complete failure with the negative galvano punctures to relieve the pain of an impacted non-bleeding fibroid. The death above referred to is the only fatal or even dangerous accident I have had since I first began the use of galvanism.

With positive intra-uterine applications, on the contrary, my success has been almost invariable. I have employed them in rapidly growing bleeding fibroids, in subinvolution, in *fungous indometritis*, and in *menorrhagia* from other causes, the disease having been arrested in about ninety per cent. of the cases. Success has been due to attention to the following points: Correct diagnosis; the introduction of a solid or flexible sound the whole depth of the uterus; the employment of a sufficient current strength to furnish at least twenty-five milliampères to each square centimetre of surface of the sound, and the rigorous following out of the septic and all the minor details of the method as laid down by Apostoli. One of my failures (Miss B.) to arrest hæmorrhage with positive intra-uterine applications of galvanism was due to the eating into a small uterine sinus with the end of the electrode, which, at that time, I was not in the habit of taking the precaution of insulating with a little wax.

This case would have been a complete success had it not been for this accident, but owing to the slight hæmorrhage, lasting, however, two weeks, I was led to class it as a failure and the uterus was removed, the patient making a good recovery and now enjoying good health.

It is interesting to note that although she received over fifty strong applications with the clay electrode on the abdomen, there was not found the slightest sign of an adhesion anywhere, except at a small spot at the back of the uterus where the latter had been rubbing on the brim of the pelvis.

Another failure, Miss S., was due to the condition of the appendages, which prevented me from giving adequate doses. By the aid of a little anæsthetic occasionally I was able to give her 100 applications lasting each from seven to ten minutes, and of an average strength of 100 milliampéres. The tumor was reduced in size one-fourth, the hæmorrhage was reduced fully three-fourths, and the patient regained her color. But her home being a thousand miles away, and as she feared that the hæmorrhage might return when she would not be able to return for treatment, she urged me to perform hysterectomy, which I told her was the only absolutely certain treatment that would prevent the hæmorrhage from returning. At the operation there was not a sign of an adhesion anywhere after 100 applications of galvanism, some of the doses going as high as 175 milliampères. She made a rapid recovery and is now in excellent health, performing her duties as principal of a high school where there are 600 girls. So far from the treatment with electricity making the operation more difficult and complicating it with adhesions, I certainly should have dreaded undertaking the operation while she was in the exsanguinated condition which she presented when she first came under my care. If she had resided in this city, or anywhere where she could have reached me and received further treatment in case of a return of the bleeding, she would not have required to have undergone the operation at all.

In another case, Miss S., of failure with the positive pole in the uterus, the patient had been sent to me with a diagnosis of fibroid, which had been made and confirmed by several leading surgeons. The tumor at first diminished in size, and the patient's general health was much improved, but after a time it suddenly began to grow again, when I sent her to the hospital for operation, at which I was present. The tumor proved to be a sarcoma of the ovary, into a depression in which the uterus was imbedded, rendering it difficult to differentiate the one from the other by a digital examination.

A brilliant success, however, was a Mrs. P., who had bled so much that as a last resort a leading gynecologist in the city had packed her in ice. I kept her tamponed with alum tampons for a few days until I could improve her enough to be carried to my office. The introduction of a soft bougie to measure the depth of the uterus caused the blood to pour out on to the floor of my office before I had time to catch it. Her skin was waxy and absolutely colorless. After twenty or twenty-five applications her periods became perfectly normal, and have remained so for several years. I took the trouble to hunt her up a few months ago to present her to the medical society, and found that she had been in perfect health ever since, suffering no inconvenience whatever from the tumor, which had been reduced fully a third. This

woman would surely have died, whether she had been operated on or left alone; in fact, no one would have dared to operate on her in the almost pulseless condition in which I first saw her.

Another brilliant success was Mrs. S., an artist by profession, who had almost become a hopeless invalid, but who after only fifteen applications of galvanism was restored to almost perfect health, and has not lost a day from her work since. The tumor was reduced a third in size, and she suffered no inconvenience from it whatever. It is now three years since the last application, and she has had no relapse. Another successful result from the positive pole in the uterus was Miss A., chambermaid in the Windsor hotel, who was about to abandon her occupation when she came under my care, but after fifteen applications was able to resume her work, and has been well ever since—now two years ago.

Mrs. X., wife of physician in this city, used to bleed so severely that she had to pass a week out of every month in bed, with her feet raised and her head low, and even then she would faint repeatedly; after ten applications was so much improved that she was no longer obliged to remain in bed at all. I subsequently curetted the uterus and repaired lacerated cervix and perineum, and now she is enjoying very fair health.

Miss A. was sent to me from Scranton, Penn. She was an expert stenographer, but was unable to keep a situation because for ten days in every month she had to remain in bed. If she attempted to remain up, large clots would come away, so that she would have to stand in the office over a newspaper and allow them to fall on it, besides she would saturate a dozen napkins a day with the serum. After one hundred applications her periods came down to three days, and she is now married.

Mrs. P. from a distant city, had to be carried into my office, but was able to walk a distance of a mile or two after having received ten applications. She received in all fifty applications, the last one three years ago, but she has remained well ever since.

One of my most recent successes is Mrs. F., of this city, who was affected with severe hæmorrhages, and who after about twenty applications was relieved of all her symptoms. There has not been any return of the hæmorrhage since leaving off the treatment three months ago.

Two cases which were sent to me as bleeding fibroids were not cured by electricity, as they subsequently proved to be one sarcoma and the other epithelioma of the uterus.

In both, however, the hæmorrhage was arrested, although one has since died and the other will soon die.

All the cases so far mentioned with the exception of the last two of cancer, were cases of bleeding fibroid tumors of the uterus, and they were all in women under forty years of age. They were all treated with positive intra-uterine applications.

In another case of a woman, Mrs. N., who had been bleeding steadily for a year and who had also a bad lacerated cervix, there seemed to be no doubt about the cancerous nature of the disease. Her hæmorrhage was permanently arrested by only have a dozen applications of the positive pole. My success in this case led me to entertain the hope that we had at our hand a cure for uterine cancer, but in another case far advanced the treatment proved an utter failure. If it is to be of any use the cases must be seen early.

Besides these fifteen cases I have treated about forty-five cases with the positive intra-uterine pole, for other conditions, principally for fungous endometritis, edometritis with hæmorrhage at the periods, but also in cases of subinvolution. Of these forty-five cases I can only recollect two failures to arrest the hæmorrhage. In every case the depth of uterus was diminished. There has been no failure to produce this result. In one case the effect was especially gratifying, an old lady with her womb lacerated, large and heavy, hanging between her legs, to whom I administered about half a dozen positive applications followed by coarse wire faradism. The womb became reduced so that a little toning up of the supports rendered them able to keep the organ within her body, where it remained till her death, two years later, from apoplexy.

The following cases were treated with negative intra-uterine galvanism, and gave me some of my most brilliant results.

Miss W., who had suffered agony for several years from pressure on the urethra and rectum, and was obliged in consequence to abandon her position as cook in a gentleman's family, was completely cured four years ago by about twenty applications, so that she was able to start and carry on successfully a large boarding-house, for which she now does both the cooking and the catering. The last time I examined her the tumor could not be felt.

Mrs. D., from a town near here, had suffered for eight years from pressure symptoms, but not from bleeding, from a large interstitial fibroid. Her health had been completely broken down by the large quantities of morphine which her suffering necessitated. One hundred applications cured her, so that two years afterward her physician wrote to me that the tumor had entirely disappeared. Although it is now over four years since her treatment, menstruation is regular and painless, and she continues in excellent health.

Miss McP. suffered so much from pressure symptoms that she was obliged to give up her situation as cook. Her tumor was growing rapidly. After about twenty applications the growth was arrested, and she felt so well that she entered the writer's service, where she has ever since, now five years, performed her duties without interruption.

Mrs. D., from Holyoke, had a large submucous fibroid which was growing rapidly. After the first application there was so much diminution in the size of her waist that she decided she was cured, and started for home. She was taken with severe expulsive pains on the train, and soon after reaching home she gave birth to a broken down fibroid about the size of a seven months child's head, since which she has enjoyed good health.

In half a dozen other cases of fibroid the pains and pressure symptoms were fairly well relieved by negative applications.

In the treatment of dysmenorrhœa I have had some very gratifying results, so that I can say that I know of no treatment except removal of the appendages which can offer such good prospects of relief. Since reporting nine cases of dysmenorrhœa cured by negative galvanism, I have added half a dozen more to the list, while only one has utterly failed to be relieved, and one relapsed until she received two more applications, since which she has remained well.

With sacro-abdominal application of galvanism I have not had any marked success, although I have only given it a limited trial. With vagino-abdominal applications I have seen the tender, enlarged and prolapsed ovaries become lighter, painless, and to disappear from Douglas' *cul-de-sac*. I have also, on three occasions, seen the uterus, which was previously bound down and retroverted, become movable. While I can hardly believe that organized bands of adhesions can be dissolved or, in the words of the electro-therapeutical poet, "melt away like snow before the summer sun," I can believe that such a powerful alterative may so improve the circulation in the lymphatics that soft or liquid exudations may be reabsorbed.

With bipolar fine wire faradism I have treated at least fifty cases, principally of inter-menstrual pain due to neuralgia of the uterus and ovaries, and of varicocele of the

pampinniform plexus. I have sometimes used it in some of the above-mentioned cases of fibroid in order to establish tolerance for the galvanic current. For any kind of pain in the pelvis, in which no organic disease of the uterus or appendages could be felt by careful bimanual examination, I have found bipolar faradism invaluable.

Where it has failed to relieve, subsequent operation has revealed undiagnosed pus in the pelvis, for which of course there is only one treatment, and that is evacuation. I have sometimes used it in the uterus, but most often in the vagina, which seems to me much safer and almost as effectual.

With coarse wire faradism I have also had very satisfactory results in cases of retroflexion due to atony of the uterus, and also in cases of prolapsus. In one case of procidentia of a very advanced type it failed to keep the uterus up; but in least a dozen other cases of moderate degree in which the uterus was not so much enlarged, a few applications of coarse wire faradism so toned up the relaxed vagina and perineal muscles, especially the levator ani, that the women have declared that they were greatly relieved, and some of them have even returned each summer during the hot weather to have their pelvic contents toned up. The subinvoluted uterus, like the uterus at the end of pregnancy, responds very readily to the faradic stimulus, and any one who has employed coarse wire bipolar faradism in the vagina cannot have failed to notice how the electrode is grasped by the sphincter of the vulva and drawn up by the levator ani.

Vagino-abdominal coarse wire faradism I have used several times with the view of shortening the round ligaments, as it has been demonstrated that the freshly removed round muscle will when stimulated by the faradic current lift a weight of a pound and a half off the table. But the result was too slow in coming, so that I was tempted to perform Alexander's operation instead.

As this paper is entitled some successes and failures with electricity in gynecology, I have not given a very detailed account of every case. It is rather a general stock-taking after nearly five years' experience with it.

As far as I know the harm I have done with it has been limited to one death and two miscarriages all due to mistakes in diagnosis. I believe that I have saved at least twenty women from operation and three or four from death, while I am absolutely positive, certain electrohobists to the contrary notwithstanding, that in those whom I treated with electricity but whom I did not save from operation, the operation was in no way rendered more difficult thereby, but in all probability their chances were improved, all of them having made easy recoveries.

I think it is unjust and unfair for my friend Dr. Joseph Price and others to lay all the blame of adhesions on electricity when they know as well as I do that these complications are met with in cases which have never been touched with electricity, while on the contrary they know that cases which have been treated for a year with electricity were found at the operation to be absolutely free from adhesions.

NOTE UPON A NEW APPLICATION OF THE ALTERATIVE SINUSOIDAL CURRENT IN GYNECOLOGY.

Presented by Dr. G. Apostoli simultaneously at the International Gynecological Congress at Brussels, and the session of the American Electro-Therapeutic Association, in New York, October 4, 5, and 6, 1892.

The alternating sinusoidal current which M. Arsonval has introduced into electro-therapeutics is utilizable in gynecology, and the following is a summary of the new acquisition:

In five months, from March to August inclusive, 1892, thirty-four patients, comprising twelve fibromata and twenty-two affections of the appendages, were treated at the clinic of Dr. G. Apostoli by the alternating current. This was done with the coöperation and assistance of Drs. Grand and Lamarque, the total number of séances being 320.

All the patients were submitted to a uniform application, one pole in the form of a sound being introduced into the uterine cavity, and the other, a large clay pad, upon the abdomen. The duration of each séance was five minutes, and was renewed two or three times a weak.

The rapidity of the alterations varied according to the circumstance, or rather to the sensibility of the patients, and oscillated between a mean of four to six thousand, and a maximum of ten to to twelve thousand per minute.

The apparatus employed is the first model constructed by Gaiffe, which is really but the magneto-faradic machine of Clark, modified and transformed by Arsonval, giving at its greatest rapidity a maximum difference of potentiality of sixty-four volts and its average rapidity a difference of thirty-two volts. This apparatus is driven by a pedal.

All the thirty-four patients were carefully watched, and the following are the general conclusions which were obtained from this initial period of treatment, conclusions which do not always appear definite to Dr. Apostoli because of the imperfect instruments and the relative short duration of the period of experimentation:

1. The alternating sinusoidal current applied to the interior of the uterus under the operative conditions under which Dr. Apostoli was placed, was always inoffensive and well supported.

2. Its application was not followed by any painful or febrile reaction, but on the contrary, was very often accompanied by a manifest sedation.

3. It did not seem to have a restrictive action on hæmorrhagic symptoms, but, on the contrary, sometimes had a tendency to cause their continuance.

4. It exercises a specific action on the symptom *pain;* this action obtains in the first séances, and most often at the end of the first séance.

5. It usually, but not universally, relieves leucorrhœa, which diminishes or disappears under its use.

6. It has no appreciative action on the hydrorrhœa associated with certain fibromata.

7. Its influence upon anatomical retrogression of fibromata is not yet definitely established.

Its action favors the resolution of peri-uterine exudates.

In conclusion, this treatment, though recent and still apparently incomplete, has always given a sufficiently definite response that it may be permitted to be considered a happy conquest in gynecological therapeutics. Succeeding researches will enable us, in the near future, to determine and fix the operative conditions under which we may the better combat the different pathological states (hypertrophies, infection, or cellular inflammations), and there will be opportunity to vary in such and such a case the number, the duration and the frequency of the séances, and to study the different curative results due to variations in voltage and intensity of the current as well as the rapidity of the alternations.

The results achieved prove that the alternating sinusoidal current should take a place in gynecology by the side of, but not yet above, the faradic and galvanic. It is destined to assist them either as a completing active auxiliary or as a supplement to them, and to fill the new and personal indications which the future will establish more definitely.

It is at present the remedy *par excellence* for pain, and if it will not make a clean sweep of galvanic and faradic applications, which have proven their efficacy, it is always an arm the more, and conservative gynecology is unable to do

otherwise than accept all that tends to enlarge and fortify her domain.

THE RESTORATION OF VITALITY TO MUSCLES WHICH HAVE BEEN COMPLETELY PARALYZED FROM POLIO-MYELITIS.

By Græme M. Hammond, M.D., New York.

It has always been a question of considerable doubt as to whether electrical stimulation of muscles which have become paralyzed from disease of the spinal cord has any decided influence in restoring them to a normal condition and at the same time reflexly stimulating degenerated nerve cells in the cord into a condition of vitality. I think it may be taken for granted that if any permanent benefit is derived from electrical stimulation of the muscles, it must be in consequence of aroused energy in the nerve cells which supply those muscles. Stimulation confined entirely to the muscular tissue, if it has any regenerative effect at all, can only be temporary, and must cease to be operative soon after the stimulation is discontinued. To be permanent at all, the cells in the anterior horns must be stimulated or developed sufficiently to enable them, by their own activity, to supply the paralyzed muscles with motion and nutrition. I do not refer to acute diseases of the cord. In such cases a certain amount of repair takes place in the cord after the destructive process has ceased; but while the disease is in progress the paralyzed muscles are undergoing atrophy, which degeneration local applications of electricity can retard to a great extent. I refer particularly to chronic cases, in which the destructive process in the cord has long since ceased, and in which the patient is left with some muscles over which there is slight voluntary control, and with others which seem to be totally paralyzed.

Microscopical examinations of sections of the spinal cord in such instances show the affected anterior horn to be atrophied, while many of the nerve cells have entirely disappeared, and others again have become rounded, have lost many of their processes, their nuclei are indistinct, and the body of the cell is shrunken, pigmented or granular. Cells are observed in all stages of degeneration, from almost total destruction to a nearly normal condition.

It is the general opinion, and it is probably correct, that the paralysis and atrophy of the muscles are in direct ratio to the destruction of the cells in the anterior horns; that muscles which are partially paralyzed are supplied by cells in a more or less partial state of degeneration; and that those muscles of which the patient has absolutely lost all motor power, have reached that condition on account of the total destruction of the cells which formerly enervated them.

There is a wide diversity of opinion in regard to the value of electricity in the treatment of the paralysis of spinal origin. Nearly all investigators admit the efficacy of this agent in acute cases of polio-myelitis, in retarding the paralysis and atrophy of the affected muscles simply by its local stimulating action on the muscles themselves. But there is not the same unanimity of opinion when the chronic form of polio-myelitis is considered. As I have previously remarked, the only way in which voluntary movements of the paralyzed muscles can be regained is by the more or less complete regeneration of the nerve cells in the anterior horns. No one for a moment believes that nerve cells which have been entirely obliterated can be reproduced again by the action of electricity or by anything else, and many refuse to believe that nerve cells which still exist, though in a more or less degenerated condition, can be stimulated to a more healthy growth or to any further development by electrical applications applied to the muscles supplied to such cells. It is quite possible, in some instances, even in apparently favorable cases, that electrical applications are unavailing, but the cases reported in which permanent benefit has been derived are two numerous to be disregarded. I shall not, therefore, consider the question of the efficacy of electricity in cases of polio-myelitis; I shall take that for granted. I do not mean to say that I believe all cases can be benefited, but I believe many of them can be, if properly treated. The subject which I shall call particular attention to is in reference to the ability to discriminate between those muscles which are capable of being improved and those which are too degenerated to admit of such a possibility.

It is generally conceded that muscles which do not respond at all to repeated attempts at electrical excitation are those whose cells have been destroyed. It is therefore useless to hope for any improvement in their condition. I will admit that if there is no contraction of the muscular elements, or if there are no muscular elements remaining, then electricity is a useless remedy. But how is it to be determined whether a muscle contracts or not? This question is usually decided by the senses of touch and sight. If the operator cannot feel a muscle contract or see it contract, he usually comes to the conclusion that it does not contract, and consequently gives a hopeless prognosis so far as that particular muscle is concerned. But there may be cases—I am satisfied there are such cases—in which the nerve cells, though greatly degenerated, are not entirely destroyed, and the muscular contraction under electrical stimulation does take place, though it may be so slight as to escape detection by the senses of the most acute observer; furthermore, that such cases are sometimes capable of a certain amount of improvement. In support of this view, I desire to report the following cases:

Case 1.—A lady about twenty-five years of age consulted me in the year 1889. When six months old she had suffered from an attack of anterior polio-myelitis which left her with the anterior tibial and peroneal groups of muscles paralyzed in both legs. As she grew older, both gastrocnemii contracted, giving rise to marked talipes equinus. On examination, I found that all of the muscles in the right leg responded to the galvanic current, but not to the faradic. The contractions were, however, very slight. In the left leg the peroneal muscles responded very slightly to galvanism—the anterior tibial muscles not at all. The contraction of the gastrocnemii was so powerful that they could not be overcome by any force it would have been proper to have used. At my request Dr. A. M. Phelps divided the tendons of both muscles. After the tendons had reunited, it was found that the feet could be flexed passively to their normal limit. Voluntarily the patient could flex the right foot and extend the toes slightly. On the left side all the muscles responded faintly to will power except the tibialis anticus and the extensor proprius pollicis. These muscles seemed to be completely paralyzed, nor would they respond to any form of electrical stimulation.

My opinion was that those muscles which could be made to react to electricity could be developed to a limited degree, while it was hopeless to look for any improvement in the tibialis anticus and extensor proprius pollicis in the left leg. I made applications of galvanism almost daily for over a year. The applications were made to the two completely paralyzed muscles just as regularly and as thoroughly as they were made to the others. The development of the others was slow, but progressive. The power of flexion of the right foot gradually increased until it could be perfectly accomplished. I was greatly surprised, about six months after treatment began, to observe a very faint reaction in the left tibialis anticus. As time went on the contractions became more noticeable, and finally could be induced by efforts of the will. A year after treatment began, flexion of the left foot could be performed fairly well. A

little over a year after treatment began, slight contractions were observed in the extensor proprius pollicis. This muscle has slowly developed, but not to the same extent as the tibilis anticus. The great toe can be partially extended, but the muscle is very weak. At the present time the patient walks quite well without a brace of any kind. The heel strikes the ground first, and in bringing the feet forward they can both be so well flexed that the toes never strike the ground.

Case 2.—A lad, eleven years of age, consulted me in April, 1891. When he was six years of age he had an attack of unilaterol polio-myelitis, which resulted in partial paralysis of the anterior tibial group of the left leg, with the exception of the tibialis anticus, which was totally paralyzed. The peroneal group were in the same condition. These muscles could not be made to contract to the electrical current to the slightest appreciable extent. All other muscles acted feebly. There was slight talipes equino-varus. The gastrocnemius was contracted and unyielding; so the tendon was cut.

Electricity was used daily, all of the muscles reacting except the peroneals and tibialis anticus. These muscles, however, received applications just the same as the others. It was only after seven months of daily applications that faint contractions were observed in the tibialis anticus. These, however, increased in vigor, and soon slight contractions could be induced by efforts of the will. This muscle has slowly developed power, so that the foot can be voluntarily flexed; but it requires a mental effort to perform the act, and the muscular effort cannot yet be maintained longer than a few seconds. Although I persistently endeavored for a year and a half, to arouse some vitality in the peroneal muscles, I was not successful. The muscles are just as inert to-day as they were when I first examined them.

Case 3.—A boy, nine years old, came to my clinic at the Post-Graduate Hospital, in May, 1891. When he was three years of age he had had an attack of anterior polio-myelitis, which had paralyzed the muscles on the anterior and external sides of the leg. Electrical examination showed that all of the muscles responded slightly except the tibialis anticus and the extensor proprius pollicis. which appeared to be totally inert. Daily electrical applications were made. It was only at the end of five months that slight contractions were obseved in the tibialis anticus. This muscle gradually developed until voluntary control was fairly well established. The foot could be flexed, but the muscle has never become what could be called strong. The electrical applications were continued almost daily to the extensor proprius pollicis for nearly eleven months' but without obtaining the slightest evidence of reaction.

These three cases show that in some instances it is possible to restore, or at least to partially restore, vitality to muscles which were at first regarded as hopelessly degenerated. Because the senses were not able to appreciate minute muscular contractions, there was no proof that such contractions did not occur. They probably did occur. Those muscles which, after months of careful attention, showed vissible signs of vitality were probably in relation with cells in an extremely degenerated condition, but which were not completely destroyed, and which, under stimulation, were capable of a certain degree of regeneration. Those muscles which, even after many months of assidious applications, still failed to show evidences of vitality were evidently completely degenerated and their cells obliterated. These cases simply demonstrate that our senses are not sufficiently acute to determine whether totally paralyzed muscles are capable of improvement or not, and, that it is only after long-continued treatment that this point can be definitely ascertained.

EXECUTIVE SESSION.

A letter written from Paris by Dr. George J. Englemen of St. Louis, was read.

The President thanked the members for their courtesy and coöperation, which had made such a pleasant and profitable meeting possible. Some of those coming a long distance had expressed their pleasure at the large and interested audience present. He then presented the newly elected president, Dr. A. H. Goelet.

Dr. Goelet expressed his appreciation of the honor conferred upon him, and also hoped that he would be able to discharge his duties half as well as the retiring president had done.

Dr. Nunn said that while of course the success of the meeting had depended to a certain extent upon the members, it had depended no less upon the presiding officer, whose courteous manner of conducting the business was worthy of all praise, as it was decidedly exceptional in the history of such gatherings. Last year, after listening to his paper, he admired him as a physicist; last night, he admired him as a toast-master. He felt therefore, that he should congratulate the Association on having such a president, and he moved a vote of thanks to him for the extraordinary way in which he had presided over the deliberations of the Associations.

The Association then adjourned.

SELECTIONS.

On Internal Secretions and the Functions of the So-called Blood Glands.—The older physiologists classified together a number of ductless glands and called them "blood glands" for example, the thyroid, thymus, and suprarenal capsules. The glands so grouped were supposed to be concerned somehow or other in the formation of blood, but their *modus operandi* was not known. The results of a number of recent researches on these and other glands show that several glands in the body, with or without ducts, exert an influence on the composition of the blood in a manner not previously suspected. As long as the view prevailed that glands with ducts poured all their secretory products —the result of the protoplasmic activity of the secretory cells lining their acini—into their ducts, to be discharged upon some surface, one's conception of a secreting gland was comparatively simple. Such a secretion discharged by a duct would be called an external secretion. With the discovery of the glycogenic function of the liver—and when it was found that substances might be formed within glands and not be discharged by their ducts, but, on the contrary, left the organ by the blood stream, for example, sugar in the hepatic vein—a wider view of gland activity was obtained. The process whereby substances are thus discharged by glands into the blood stream—or it may be into the lymphatics—has been happily named by French observers "internal secretion."

If we take three widely different glands, for example, the thyroid, pancreas, and suprarenal capsules,recent researches have thrown a wonderful light on the relation of each of these glands, more especially to the chemical constitution of the blood.

The extraordinary results following complete excision of the thyroid gland in man, monkeys, and dogs, namely, the appearance of myxœdema, with all that this entails in the altered chemical constitution of the blood, the condition of the subcutaneous tissue and salivary glands, and the effect upon the nervous system, point to the profound influence which this gland exerts on the blood, and the general metabolic phenomena of the body. But when we look at the

equally remarkable fact that the injection of the juice of thyroid glands greatly ameliorates the symptoms of myxœdema in man and dogs, we have another evidence of the important part played by some constituent or constituents manufactured in the thyroid. It may be that this gland discharges something into the general blood stream—an internal secretion which is necessary to the maintenance of a proper composition of the blood and certain of the tissues. Or it may be that this gland prevents an auto-intoxication either by transferring the toxic products of metabolism into easily eliminated bodies, or by directly neutralizing these products by its secretion. This is the theory at present most in favor. The injection of the juice of any other gland in the body has no effect on the cachexia strumipriva, such as is caused by the introduction of thyroid juice. At any rate, Albertoni and Tizzoni have shown that this gland does not seem to be associated with the manufacture of blood corpuscles.

It is generally stated that rabbits do not exhibit the usual symptoms after excision of the thyroid. It should be strange if this were so. It appears, however, from a recent research of M. Gley, that although excision of the thyroid in these animals is followed by general muscular twitchings, clonic and tonic attacks, paralysis of the hind limbs, salivation, polypnœa, arrest of the respiration, and death, yet in other cases some rabbits exhibit a special cachexia, like that described by Horseley in monkeys, that is, they become myxœdematous. It would seem, therefore, that the function of this gland is essentially the same in all mammals, but the cachexia is observed less frequently in the dog and rabbit than in man and monkeys. In the former the nervous phenomena are so intense that there is not time for the other phenomena to occur. In cases where no effects follow excision these may be explained by the existence of supplementary thyroids or "glandules," which were not removed. In rabbits, to get the cachexia developed, one must get rid of the troubles following immediately on the operation, for examples, by excising one gland at a time and allowing some compensatory change to take place in another organ, or by the injection of thyroid juice. Gley states that the hypophysis cerebri, or pituitary body, became greatly hypertrophied in some of his cases, and he raises the very interesting question whether this body can partly "supplant" or or compensate for the loss of the thyroid. Hofmeister, of Halle, who has excised the thyroid—but not the accessory thyroids or "glandules"—in young rabbits,find sthat there is a remarkable arrest in the development of the osseous system, together with trophic lesions of the skin, swelling of the kidneys, and also hypertrophy of the pituitary body.

Turning now to the pancreas, the remarkable experiments of Mering and Minowski showed that complete excision of this organ resulted in what has been called "pancreas diabetes," which is always fatal. It is quite certain that this result is not due to injury of the numerous nerves necessarily injured in the process of excision, and it is equally certain that if incomplete excision is practised fatal diabetes does not take place. This would seem to show that the pancreas is a true "blood gland," capable of modifying the composition of the blood. Does it do so by discharging an "internal secretion" into the blood? Minkowski found that if a part of the pancreas be grafted under the skin of the abdomen, this sufficed to prevent the diabetes which otherwise would follow removal of the pancreas.

M. Hédon has recently confirmed this observation, and devised an ingenious operation for the purpose. In the dog the pancreas is excised, and the remainder of the organ, with its blood vessels and nerves intact, is grafted under the skin of the abdomen, where it soon takes root. No diabetes follows. The original vascular connections may be severed, yet there is no glycosuria. If, however, the graft of pancreas under the skin and outside the abdominal cavity is removed, or if it undergo atrophy, sugar appears in the urine, and the animal ultimately dies with all the symptoms of diabetes. The subcutaneous graft continues to secrete a modified pancreatic juice, which is excreted externally; thus no pancreatic juice reaches the intestinal tract; so that the symptoms are not in any way due to the absence of pancreatic juice from the intestine.

It is suggested that the pancreas forms some substance which it discharges into the blood, not by the pancreatic duct, but by the blood vessels or lymphatics, and that this substance is concerned in the destruction of the sugar in the body. It has been suggested, moreover, that it is of the nature of a ferment—the term "glycolytic ferment" has been applied to it by Lépine—and that in the diminution or absence of this ferment grape sugar is not destroyed.

But before accepting this theory we must be sure that blood normally possesses the power of destroying sugar. It appears, from a very interesting observation of M. Anthus that fluoride of sodium added to fluids to the amount of one per cent. prevents putrefaction. It prevents the development of organized ferments, but does not interfere with the action of enzymes. He comes to the conclusion that blood normally does not contain any glycolytic ferment, and that, when blood or blood serum changes the sugar, this is due to the influence of a soluble ferment developed after the blood is shed from the vessels. To this must be added the observations of Sansoni, of Turin, who was unable to find the difference stated by Lépine to exist between diabetic and normal blood as regards their glycolytic power—that is, the disappearance of sugar when the estimations are carried out with antiseptic precautions. These statements seem to deprive the glycolytic theory of its basis of support.

If the retention of a small part of the pancreas under the skin will ward off the effects known to follow upon complete excision of this organ, and knowing that injection of thyroid juice ameliorates the effects of excision of the thyroid, it seems worthy of investigation whether the pancreas or an extract thereof may not have a corresponding action. The experiment has been made by Professor A. Capparelli, of Catania, who finds that the intra-abdominal injection of a *purèe* of fresh pancreas into dogs without a pancreas greatly reduces the glycosuria. This process seems to amount to something like a transitory graft. This observation so far, however, has not been confirmed. The fact of the existence of pancreas diabetes, remains; but so far the proof—at least sufficient proof—is wanting to prove the so-called "glycolytic" influence of the pancreas on the sugar of the blood.

Amongst the ductless glands of the body the suprarenal capsules have long occupied a unique position. Since the researches of Brown-Séquard and those of Addison—apart from the histology and development of these organs—but little progress up to the immediate present has been made in the physiology of these glands. The one prominent statement—apart from the extreme weakness and rapid fatigue after slight exertion—which one always finds associated with disease of these organs is that pigmentation or bronzing of the skin has been observed to follow when they are diseased in man. Indeed, it is alleged by Tizzoni that excision of these organs in rabbits is followed by limited pigmentation of the skin confined to the region around the mouth. It has also been suggested that they are concerned in the destruction of pigment in the organism. These statements, with the addition that bile salts are found in them, are the chief statements made regarding these interesting glands.

The physiology of these glands, however, has entered on

a new phase, which seems to indicate that although they are ductless they are not functionless; and further, that their function is one intimately related to the composition of the blood; that in this sense they are "blood glands," and that perhaps they discharge into the blood an "internal secretion which acts beneficially upon this fluid, or that they form some substance capable of destroying toxic products which accumulate in the blood after their removal.

By the experiments of MM. Abelous and Langlois we are presented with a new train of facts. Their first researches were conducted on frogs. In these animals the capsules were destroyed by means of an actual cautery because they are adherent to the kidneys, although they have no developmental relation to these organs.

Destruction of both capsules is fatal. The animals, according to temperature, may survive from two to thirteen days. Gradually, after the operation, incoördination of the muscular movements, and finally motor paralysis, is observed, the animal being unable to respond even to the most painful sensations. It seems, therefore, that progressive paresis resulting in paralysis is the general result; a result, however, which does not take place when a considerable part of one capsule is not destroyed.

Now we have to deal with an interesting fact—namely: that the introduction into the dorsal lymph sac of a part of a kidney with the adherent capsule prolongs the life of a frog with its capsules excised. That the composition of the blood is modified in an "acapsulated" frog is clearly proved by the fact that if the blood of an "acapsulated" frog just about to die be injected into a healthy frog, the latter is rapidly paralyzed and dies. Why does it become paralyzed? Abelous and Langlois find that the blood of an animal deprived of its capsules produces symptoms analogous to those resulting from the administration of curare, etc. Stimulation of the sciatic nerve in a frog about to die yields no muscular response, while direct stimulation of the muscle is immediately followed by a muscular contraction. By repeating the well-known experiment of Bernard on curare by ligating the blood-vessels of one limb of a frog so as to exclude the toxic products from that limb, they came to the conclusion that the toxic blood of an "acapsulated" frog acts on the terminations of the motor nerves just as curare does. What the substance is that does this is unknown. Death seems to be due to the fact that the blood of an "acapsulated" and dying frog exerts a paralytic effect, analogous in its action to curare, upon a healthy frog.

Practically the same result is obtained by injecting the blood of an "acapsulated" guinea-pig into a frog. The latter exhibits all the symptoms of a frog deprived of its capsules. It is obvious that some toxic substance accumulates in the blood as a consequence of the removal of these organs, but what that substance is requires further investigation. It is known that an extract of the suprarenal capsules causes toxic symptoms and death, which has been attributed to neurin; but the proof is wanting that it is the presence of neurin in the blood of an acapsulated animal which causes the paralysis of the terminations of the motor nerves which follows excision of the suprarenal capsules.—*British Medical Journal.*

Interest in Medical Meetings.—How can the meetings of medical societies be made interesting? This question worries the chairman and secretary of most societies; but the non-official members generally merely criticise, or stay away, if the meetings are tiresome. The drawing power of society often depends as much upon the by-laws, and the activity of the officers as upon the capability of the members. It is necessary first to attract an audience, and then to keep them interested; this being accomplished, the value of the proceedings may be left to the individual speakers. The greatest bore is a paper which is ten times as long as it need be.

The adoption of a "Ten-Minute Paper," rule has recently become a marked feature in the work of the New York Academy of Medicine, especially in the Section in Pædiatrics, and has resulted in a marked increase in the attendance at the meetings, and a large number of concise and interesting papers. The instruction to writers of papers by the chairman contains the following: "Hippocrates and Galen may be passed with very slight notice, as they have been dead for some time and their opinions are somewhat obsolete. Scratch out the formal introduction and condense the body of the paper. End the paper where the subject matter ends, making its action like that of a piston syringe—begin, spatter, stop."

A busy man is more easily persuaded to write an informal short paper than a formal long one. The formality itself, and the necessity of clothing the main idea is often the bugbear which prompts a man to decline to write. If his contribution is to be one of the *pièce de résistance* it is easier for him, and generally much easier for the audience. In drawing deductions from a case, or a series of cases, a reader is readily excused from going into the details of his process; he is not proving a geometrical problem, or if he is, his hearers had rather see the steps in print, where they can be skipped, than listen to them.

The discussion is generally an interesting part of a meeting. There is usually too little rather than too much, but it would be acceptible to most societies if those gentlemen who have a rambling and procrastinating tendency, could be helped along.

The reader as well as the listener will be more easily attracted by a condensed than by a well padded paper. No one, except perhaps the writer, thinks that there is more dignity in a long than in a short article. The reader has the advantage over the hearer in that he can skip, and look to the end for the conclusion, but the process is not a pleasant one to him. He is repelled by tables and by copies of hospital records, and attracted by short articles or well-described descriptions of single cases.—*Boston Med. and Surg Journal.*

Syphilis Tardiva.—Professor Neumann, of Vienna (*Brit Jour. of Derm.*, October, 1882), in an essay before the Second International Dermatological Congress, summarizes his views as follows: 1. The chief etiological factor in tertiary syphilis is some latent virus resulting from imperfect treatment in the early stages, assisted by constitutional diseases such as tuberculosis, malaria, scurvy, diabetes, Bright's disease, and chronic alcoholism. 2. Tertiary syphilis cannot be considered as exclusively a metastasis, but in most cases as the result of some exudation persisting in the tissues, which, under the influence of some of the factors enumerated above, takes on new action. 3. Tertiary syphilis occurs in about six or seven per cent. of all cases of syphilis, and in the great majority does so in the third year after primary infection, although it may show itself earlier or much later. 4. Its most frequent manifestations are in the skin, mucous membrane, and bones. 5. So-called epidemic syphhilis (radesyge, skerljevo, frenjak, etc.), is not a disease *sui generis*, but ordinary tertiary syphilis, along with some cases of late hereditary syphilis. 6. Hereditary transmission to a later generation than the first has not been proven. 7. The examination of the blood gives similar results to that in secondary syphilis; the amount of hæmoglobin is invariably greatly diminished; the diminution of the number of the red corpuscles and increase of the white, although less marked, are equally constant changes.

PUERPERAL GONORRHŒA.—Krönig in the *Centralblatt für Gynäkologie*,1893, No. 8, describes nine cases of puerperal gonorrhœa in which cultures were made from the lochial discharge. Pure cultures of the gonococcus were found most frequent from four to six days after delivery, and rapidly disappearing. The presence of these germes was accompanied by fever, in four cases rising to 104 F. The lochial discharge was increased, purulent, and not offensive. The lochia were observed to contain pus as early as four days after delivery. Seven of the nine cases showed marked fever after confinement, and had purulent discharge which persisted. The uterus was also deficient in involution. Two cases gave more positive evidence of septic infection, the first leaving hospital two weeks after confinement, returning two weeks later with an exudate in the pelvic peritoneum to the left uterus. The second patient was delayed in hospital with parametritis and gonorrhœal tendo-vaginitis The patient also suffered from tendo-vaginitis of the right elbow and right hand. The exudate in the pelvis was accompanied by a temperature of 104°.

The following conclusions are drawn from the cases in question: In patients suffering from gonorrhœa, infection may easily travel to the interior of the uterus after labor; this infection may cause fever; this germ does not usually unite with others to produce mixed infection; gonorrhœal infection in the puerperal state is seldom directly dangerous to life, but leads to subsequent disorders, especially to infection of the endometrium, fallopian tubes, and the tissues about the uterus.—*American Jour. Med. Sciences.*

THE BROMIDES IN EPILEPSY.—In a recent paper Eulenburg gives the preference to a mixture of the bromides, and considers the best combination to be two parts of the potassium salt, two of sodium, and one of ammonium. He does not believe in the idea that the higher atomic weight of the alkali or alkaline earth forming the bromide the more powerful is its action. This is shown by one example among several. The atomic weights of potassium and calcium are almost alike, but the bromide of the latter is four times weaker than that of the former. Erlenmeyer first called attention to the advantage of administering bromides in water saturated with carbonic acid, and there is a preparation of "brom-water" distinguished by his name, and containing bromides in the proportion of two of potassium, two of sodium, and one of ammonium, which is an excellent and palatable form. It seems to be considered as established that the aggregate dose of the mixed bromides is much more active than the same amount of one salt, and the administration in carbonic acid water, apart from the greater stability of the solution, is more free from the risk of cumulative action or bromism. A very serviceable mode is to dispense the three bromides in powder form along with carbonate of sodium and citric acid, so that an effervescing draught is formed on mixing with water. This has the advantage of preserving the somewhat unstable ammonium bromide. These salts ought neither to be taken undissolved in the powder or pill form, nor in concentrated solution. The latter should be freely diluted with water. With regard to the dosage the chief point to be borne in mind is not to give less than is necessary, and therefore sufficient ought to be taken not only to lessen the number of attacks, but to produce a lasting diminution in the excitability of the nerve centres. To obtain this, the dose will vary in different individuals, but as a rule with adults it would seldom be less than seventy-five grains, and rarely over two and one-half drachms, *per diem*. Voisin advised that a sufficient quantity should be given to produce anæsthesia of the pharynx, but this is not always a safe criterion, as it varies in individual patients. The daily dose should not be divided into more than two or three single quantities. The time of administration will vary with the onset of the attacks. Should they be wholly by day, then two large doses, one morning and one afternoon, will answer best; while in the case of purely nocturnal seizures a large quantity late in the evening is indicated. In the others, two full doses morning and evening, or three doses, morning, afternoon, and evening, are the most useful; and in all cases shortly after a meal. The treatment should be continued for two if not three years after the occurrence of the last seizure. It ought not to be discontinued for slight symptoms of bromism; the patient ought rather to take every means to improve the general health. The question of increasing or diminishing the dose during the treatment, Eulenburg answers by saying that when the proper dose is reached it ought to be continued during the whole course, as any lessening is as a rule risky, and liable to be punished by the occurance of an attack. There are cases when the bromides do not suit, or are not well borne, or remain quite inactive; but these are comparatively few in number. Where there is intolerance of the drug, very careful administration of small doses combined with iron or arsenic, and attention to the general health, may overcome the difficulty; but where the action remains in abeyance with no effect upon the seizures, or as in rare cases, excitement is produced, the bromides ought not to be persisted in, but recourse had to other remedies.—*Therapeutic Monatshefte.*

THE TREATMENT OF ACUTE INTESTINAL OBSTRUCTION.—L. Rehn, (*Archiv. für klin. Chir.*, bd. xliii, hft. 3, 4), speaking from personal experience, advises early surgical interference in cases of acute intestinal obstruction, and presents on the whole very good results. He gives a short history of thirteen cases of acute intestinal obstruction with ten recoveries through operative interference, most of which necessitated considerable manipulation.

In some cases the diagnosis regarding location was not clear, while in others he was able to locate it definitely. Most of the cases were the result of strangulation or torsion. One was due to an acute angle produced by mechanical pressure, resulting from suppurating masses; this was at once relieved by simply removing the pus pockets. In another case the occlusion was due to a displacement of the flexura sigmoidea through pressure induced by an abdominal pregnancy.

As usual the conditions found were rarely alike in two cases. The diagnosis was in most cases easy, eight times fecal vomiting was present. Rehn places great value upon auscultation of the abdomen in order to aid in localizing the peristalsis in cases where this can not be seen.

The author wishes to make a distinct classification between those cases in which obstruction arises outside of the intestinal wall, and those in which the lumen of the bowels is obstructed from the interior. This latter can only be considered secondarily in acute strangulation, since the fate of the tried bowel may be already sealed before any marked symptoms of obstruction of its lumen present themselves, hence strangulation of the bowel, in the author's opinion, can be more certainly diagnosed if the attack is sudden, grave; accompanied by severe pain and followed soon by collapse. Such cases must be treated on a similar plane as strangulated herdia, namely, prompt surgical interference.

The author believes that such stranuglations are more dangerous to the vitality of the bowel than cases of strangulate hernia. The complication with suppurating processes, such as typhlitis, require that the attention be directed to a careful removal of all products of suppuration. In cases of chronic increasing obstruction the author gives no precise regulations regarding diagnosis or treatment.

If operation becomes necessary he prefers enterostomie, and only in those cases where a definite knowledge of the location and nature of the obstruction is present. An exploratory incision may often be necessary to establish this.—*Med. and Surg. Reporter.*

Oleum Succini as a Rubefacient.—Oil of amber is a good remedy long since out of fashion. It is obtained by the dry distillation of amber, and purified by subsequent rectification. The crude oil is a thick brown liquid having a strong empyreumatic odor and a hot taste, whilst the rectified oil is colorless or yellowish, and has a specific gravity varying from 880 to 990. It is a powerful local irritant, and has been used with success in the treatment of rheumatism, lumbago, and sciatica. It enters into the composition of two old-fashioned remedies—Roche's embrocation and the Haarlem oil—and in many parts of the country seems to be highly valued as a remedy for whooping-cough, the directions being that it is to be well rubbed into spine night and morning. A good liniment is made by mixing together equal parts of oil of amber, spirit of camphor, and spirit of hartshorn. The oleum succini seems to have found a footing in most of the Continental Pharmacopœias, and in America is extensively employed as a local application to the chest in cases of incipient phtisis and chronic bronchitis. It is given internally in doses of from 10 to 20 drops, either in the form of an emulsion or, better still, in capsules. It is useful in flatulent dyspepsia and in hysteria accompanied by globus. Wood says that in the hiccough it is probably next to musk the most efficient remedy. It is not free from toxic properties, for a single dose of a tablespoonful gave rise to persistent vomiting and diarrhœa, with symptoms of collapse. The patient recovered, although she aborted. It is not likely that it will find much favor as an internal remedy, but as a local application its rubefacient effects will be found useful.—*British Medical Journal.*

Living and Chemical Fermentation.—Fermentation, as is well known, is classed in two categories, the one depending on living beings (vital fermentation), the other depending exclusively on chemical processes independent of life, and capable of developing in absolutely sterile media (chemical fermentation). The flouride of sodium which at one per cent. stops instantly and definitely all vital fermentation, and with it all manifestations of life without suspending chemical fermentation, permits the appreciation of the phenomena of the other group.

The addition of one per cent. solution of fluoride of sodium preserves organic matter from all putrefaction, even at a temperature of 40° to 45° C. All substances thus preserved, such as milk, blood, urine, bile, beaten eggs, fruits, fragments of animal tissue, saliva, pan creatine, gelatine, etc., presented after several months at 40° C., neither odor or any other alteration characteristic of the development of microbes. The sugar, the disappearance of which from an organic medium is one of the first microbic phenomena in living fermentation, is preserved totally in fluorated liquors. It is not in the precipitation of the salts calcium that the fluoride is sterilized; for the oxalate of sodium at one per cent. has not the same property; it retards only the beginning, and moderates the march of putrefaction.

The lactic ferment is destroyed by the fluoride of sodium at one per cent; it suffices generally to add to the milk 0.4 per cent. of fluoride. The sugar of milk is preserved in toto in the fluorated liquors.

The ammoniacal ferments of urine are inactive in the presence of fluoride of 1 per cent. The resistance to the action of this salt, as to that of the lactic ferment, is less than that of the microörganism of putrefaction and of that of the moulds. The quantity of the urea in fluorated urine is invariable.

The fluoride of sodium at a dose of 0.3 per cent. arrests the alcoholic fermentation of sugar instantaneously.

The fluoride of sodium at the stated dose then prevents the development of living elements in organic liquors and tissues. Inferior doses are even sometimes sufficient to completely sterilize; but always, even in very small doses, the appearance of fermentation is retarded and the intensity is diminished. The soluble ferments—invertine, trypsine, emulsine, etc.—preserve their activity in the presence of fluoride of sodium. The products of fermentation are the same whether the fermentation occurs in the presence or the absence of this salt. The natural digestive juices—gastric juice, pancreatic juice, and the digestive juice of masceration—preserve in the presence of the fluoride their normal property. After several months these soluble ferments are not destroyed by the salts by 1 per cent. at a temperature of 40° C.

The alcoholic fermentation of saccharose presents two phases; one is an inversion of the sugar—a chemical phenomenon; the other is the splitting of the inverted sugar—a vital phenomenon; the fluoride of sodium stops only at the second fermentation.

The blood may transform the glycogen into reductive sugar, by means of the distaste that it contains; the fluoride of sodium does not prevent this fermentation.

The liver separated from the organism and free from blood by intravascular washing, transforms its glycogen into sugar. This transformation is possible in the presence of one per cent. of fluoride of sodium, that is to say, in the very conditions in which the life of the cellular elements is impossible; hepatic glycogenia, therefore, is a phenomenon of chemical fermentation. Furthermore, hepatic masceratations kept sterile by the fluoride of sodium, preserve the power of transforming the glycogen into sugar, during weeks and months, that is to say, during a time infinitely longer than the possible duration of life of the cellular elements of the liver.

The defibrinated or oxalated blood consumes its oxygen, and produces carbonic acid gas. The fluoride of sodium stops completely and definitely this phenomenon of oxydation; the nature and the gas of the fluorated blood remain invariable. The transformations which occur in the non-fluorated blood are the phenomena of the vital respiration.

The green parts of the vegetables lose by the action of fluoride of sodium, the property of decomposing carbonic acid gas and liberating oxygen. The chlorofilian function, then, is a vital phenomenon.

Finally, the fluoride of sodium at one per cent. kills every living thing, and opposes the development of vital fermentation without arresting chemical fermentation. It permits the determination of the nature of the phenomena having their seat in an organic medium, and explains whether they belong to a vital action or to a diastasic action.—*Modern Medicine and Bacteriological World.*

Investigations on Psoriasis.—Prevalent as psoriasis is, its nature and causation are still obscure. Dr. Nielson, of Copenhagen, is the latest inquirer, and to some of his results we may direct attention. The earliest clinical phenomenon of the commencing spot is hyperæmia; the production of scales is, on the contrary, a later addition. Besides the very frequent brownish pigmentation, particularly after arsenical treatment, the eruption sometimes, when arsenic or iodide of potassium in large doses has been given, leaves a leucoderma behind, always manifesting itself in minute points, which may, however, be numerous, and may, in individual cases, linger unchanged for months. In 927 cases he

found but one limited solely to the palms and soles. He adds that there are in literature but two instances in which, after having been for several years confined to these localities, it spread to the more ordinary situations. A genuine universal affection of the skin, without any sound portion, in psoriasis patients, is only met with in those conditions called exfoliative dermatitis, pityriasis rubra, etc., and these differ clinically so much from psoriasis, that they should certainly be regarded as a dermatitis, often of varied pathogenesis, which complicates psoriasis, and in which it disappears. Such cases which now and then appear after irritating treatment, seem also to be seen with relative frequency in chronic alcoholics and persons suffering from chronic rheumatic joint diseases. They are rare, but evince a tendency to recur. Speaking of heredity, he says, "We have as yet no means of deciding that the psoriasis in several members of the same family should be ascribed to it, for such can at least be equally well explained by contagion. Sometimes, particularly in certain situations, as the scalp, the forehead, the face, occasionally on the chest and back, the eruption is covered with dirty yellow, fatty scales, though on other parts quite characteristic. The same thing is met with also in syphilis, and is apparently due, and such is Unna's view, to a local combination of psoriasis and seborrhœic eczema." Nielson then discusses the various opinions held as to the pathogenesis of psoriasis. 1. As the eruption of a constitutional disease or of a special blood infection. Besides other arguments against this, he points out that it has in general the character of a simple skin disease, no implication of mucous membranes having been noticed, nor any complications which have a direct relation to it. Although some circumstances in support of this view can be brought forward, it does not seem probable that it is a constitutional affection. 2. As a neuropathic disorder. A careful examination of the theories of Polotebnoff and others leads him to the conclusion that it is not likely that the origin of psoriasis is to be sought for in the nervous system. 3. As an idiopathic skin disease. This is the opinion of some of the older authors, who thought it was frequently inherited or occasionally acquired as a result of diseases which, as infectious ones, produced a deep modification of the skin. A predisposition of the integument was assumed, causing it to react readily to irritants, but of the nature of this predisposition we know nothing, and it is as unsubstantial as the so-called "dartrous diathesis." 4. As a parasitic affection of the skin. This theory, so ably advocated by Lang, is the one which Nielson regards as the most probable. It is true that the supposed parasite of Lang has been shown, like other supposed parasites, to be of artificial origin, so that at present the microörganism is unknown, but this does not invalidate the hypothesis. It may be that it belongs to the hyphomycetes, and that, as in lupus, the numbers are scanty. He quotes a series of cases where there was apparently communication by contagion. He points out that disturbances or changes in the nutrition of the skin, which must certainly affect the nutrition provided for the parasite, may explain the disappearance and reappearance of the eruption, and the same may be said of internal remedies acting on the soil. If this view be accepted, the necessity of carrying on the treatment till every trace of the disease has vanished becomes of paramount importance; nay, further, as Bienstock has observed, a subsequent treatment of the whole body with anti-parasitic remedies should be employed, and the patient ought to be kept for some time under observation, in order finally to prevent the possibility of fresh infection. The clothes, bed linen, and such toilet articles as spores may cling to, must be disinfected, while the patient must avoid association with other persons affected wtth psoriasis, unless they have undergone a like course of treatment. Only in this way are cases of psoriasis to be thoroughly cured.—*Monatshefte für praktische Dermatologie.—Edin. Med. Journal.*

TREATMENT OF AN ATTACK OF HEPATIC COLIC.—Coladon (*Wiener medicinische Presse*, No. 33, 1892) describes what he concludes to be the best treatment for hepatic colic, from observations made in his own case.

The treatment varies in the three stages of the attack.

The author describes as prodromes, which hitherto have been but little known, a peculiar somnolent tendency, a general relaxation even after a night spent in sound sleep, irregular pulsations, particularly of the temporal arteries, false sensation of hunger, emptiness in the epigastrium or nausea, sensation of contraction of the œsophagus, eructations and polyuria.

Then pressure in the hypochondrium, distension of the abdomen and pain in the region of the gall-bladder set in. The treatment of this stage must be expectative; purges and emetics do harm. The author recommends physical and mental rest and careful dieting.

When the attack is developed, injections of morphia, particularly in the beginning, are dangerous, owing to possible invagination of the calculus. Coladon recommends chloroform, which, if not used to complete anæsthesia, does not at all debilitate the contractility of the bile-ducts, but merely reduces their sensitiveness. Hot water bags, one to the epigastrium, the other to the back, soon quiet the pain.

In the decreasing stage a purge will relieve the intestines of gall-stones. At the same time cholagogues are in place; among these the best is podophyllin in small doses for several days. Cold douches to the right hypochondrium also prove useful.

As a mechanical prophylactic, the author recommends massage of the right hypochondrium, which the patient can execute on himself for fifteen minutes every morning and evening.—*Dietetic Gazette.*

THE PRESENT STATUS OF CORROSIVE SUBLIMATE IN SURGERY.—I want to say a few words on a subject in which we are all interested—the present status of corrosive sublimate in surgery. For a long time all of us who work in general surgery have wondered why we failed to get good results in cases where we thought we had done everything that could be done to assure an antiseptic condition of the part. Two years ago I ceased the use of solutions particularly in fresh wounds, and have lately ceased to use them at all, even in suppurating conditions. Three years ago Welch, of the Johns Hopkins University, made a report in which he mentioned numerous experiments with sublimate to find out something about the action and power of this drug. He has given us reasons why we oftentimes fail in getting an aseptic condition or having an aseptic outcome of a wound from the use of this substance. It has been proven that the inhibiting power of bichloride of mercury is just so much, which is in proportion to the albuminous material it has to deal with. I think it is proven beyond all doubt by his experiments and by those of his assistants, particularly Abbott, that the present position of bichloride is rather against its use, and that it does more harm than good. If the solution be of sufficient strength to have any effect upon germs already there, it will cause necrosis and prevent healing of the wound, as well as producing a better nidus for the production and operation of other microörganisms.

I will read from Dr. Abbott's paper his conclusions upon this subject, which may be of interest:

"What conclusions are we justified in drawing from such results as those obtainee in the experiments here reported?

"1. It is seen that under the most favorable conditions a given amount of sublimate has the property of rendering

inert only a certain number of individual organisms. That is to say, the process is a definite chemical one taking place between the protoplasm of the individual bacteria and the sublimate in solution.

"2. That the disinfecting activity of the sublimate against organisms is profoundly influenced by the proportion of albuminous material contained in the medium in which the bacteria are present.

"3. That the relation between the golden pyogenic staphylococci and sublimate is not a constant one, organism from different sources and of different ages behaving differently when exposed to the same amount of the disinfectant for the same length of time.

"4. That the organisms which survive the exposure to the sublimate may experience a temporary attenuation. This attenuation, however, may be caused to disappear by successive cultivation in normal media.

"5. That by the method employed in these experiments, it is possible to select from a culture the most resistant forms of that culture.

"6. That many of the results of previous experimenters, who have assigned to corrosive sublimate more powerful disinfectant properties against the staphylococcus pyogenes aureus in cultures than the observations reported in this paper indicate, are attributable to the neglect of certain precautions now recognized as essential to the proper conduct of such experiments.

"In the light of these experiments and those of the experimenters quoted in this paper, it is plain that for use in surgical practice the solutions of corrosive sublimate do not possess all the advantages hitherto attributed to them.

"To the employment of sublimate solutions upon wound surfaces it is plain that there exist at least two serious objections:

"First, the albumen of the tissues and fluids of the body tends to diminish the strength of, or indeed renders entirely inert, the solution employed.

"And second, the integrity of the tissues is materially injured by the application of solutions of this salt.

"The first objection cannot be met with certainty, for the surgeon possesses no means by which he can determine the albuminous material with which his solutions are to come in contact, and in any case this large amount of albuminous material is an almost insuperable obstacle to complete disinfection with sublimate. He is, therefore, never in a position to say, *a priori*, that his efforts at disinfection of the wound are, or are not, successful.

"The second objection is equally serious. During the past two years we have had sufficient evidence to lead us to believe that the normal tissues and fluids of the body possess the power of rendering inert many kinds of organisms which may have gained access to them. This function is therefore diminished, or indeed may be quite destroyed, by any agent which brings about alterations in the constitution of these tissues. We know that just such changes as those to which we refer are known to follow the application of sublimate solutions. It is plain that if we bring about in these tissues a condition of superficial necrosis—the condition following upon the application of sublimate—they are much less able to resist the inroads of infectious organisms than they would have been had they been left in their natural condition.

"As a disinfectant in the strict sense of the word, there are perhaps few substances which possess the property in a higher degree than does corrosive sublimate, but at the same time there is nothing which is employed for this purpose that requires greater care in its manipulation in order to obtain its best results, than does this salt. As we have seen, its action is influenced by a number of conditions which in practical application it is difficult, if not quite impossible, to control.

"For these reasons we seem hardly justified in continuing to give it the first place in the list of substances which may be employed practically for the purpose of rendering harmless materials containing the germs of infectious maladies."

I have found in my practical work, that since I ceased the use of sublimate solutions I have had much more uniformly good results by using simply sterilized water.—Ap. Morgan Vance, M.D., in *Med. and Surg. Reporter.*

Copaiba in Cirrhosis of the Liver.—Georginewski (*Revue de Therap. Medico-Chirurg.*) has employed the balsam of copaiba in twelve cases of hepatic cirrhosis. In all of the cases the action of the drug was remarkable. The urine increased two or three times its usual amount, and continued so for eight days. There was a great reduction in the ascites, and a marked improvement in the general health. In one case the symptoms did not return during eight months. The copaiba, however, caused some inconvenience—coated tongue, distention of the stomach, and occasionally diarrhea. Georginewski subsequently studied the action of copaiba on dogs. The toxic effects were only induced after the administration of very large doses two hundred times larger than therapeutic doses. In this quantity copaiba caused diarrhea with blood stools. At the autopsy no changes were observed in the kidneys beyond those which could have been attributed to excessive functional activity.—*University Medical Magazine.*

The Relation of Eye Diseases to Nasal Conditions.—The time is not far past—during the developmental period of specialism—when the treatment of ear diseases was associated with that of eye diseases. It was not long, however, before the total dissimilarity of the conditions divorced the union, and ophthalmology developed as a separate specialty, while the throat, nose and ear were recognized as more closely related. Until a comparatively recent date no literature taught the close interdependence of certain conjunctival and corneal diseases, as well as lachrymal troubles, upon nasal abnormalities. There now exists, however, an abundant record of this subject, and so firmly has the necessity for nasal treatment in certain eye diseases impressed itself upon the oculist that patients are constantly directed to seek relief for their nasal and pharyngeal condition while being treated for their ocular troubles. Indeed, the close relationship between the two organs has led one of the foremost oculists to associate nasal treatment with his special practice.

The presence of phlyctenular conjunctivis or keratitis, which is also known as scrofulous or eczematous conjunctivitis or keratitis, is almost invariably associated with an irritative rhinitis and excoriations about the nares, and a tardy recovery is transformed into a rapid cure by appropriate treatment of the unhealthy membrane of the nose. The influence of nasal conditions upon the lachrymal apparatus is most extensive and pronounced. In the *Medical News*, February 6, 1885, Dr. Harrison Allen published his observations upon cases from the clinics of Dr. Norris and Dr. Oliver, and found that in twenty cases of lachrymal obstruction there existed coincident chronic nasal catarrh; he further adds, however, that the proportion cannot be presumed to be constant, since in his own practice the association is much less frequent. He holds that obstruction occurs where there exists 1, submucous infiltration or atrophies from chronic nasal catarrh, or 2, where there is necrosis or ostitis. In a later paper (Transactions Philadelphia County Medical Society, p. 52, 1890) the same writer cites additional cases to show how displacement of the middle turbinate bone or a hyperplasia of the mucous mem-

brane may cause pressure and congestion terminating in lachrymal obstruction.

There is a close etiological relation between measles, and other exanthemata, and lachyrmal stenoses, which is explained by the inflammation of the naso-pharyngeal mucous membrane, and it is in this class of obstructive cases that abscesses are most frequently met. In a paper read by Dr. de Schweinitz before the Philadelphia County Medical Society (Transactions, p. 173, 1892), he directs attention to a class of cases in which there is obstruction to the drainage system of the eye and which are most successfully treated with the aid of the rhinologist. The conditions justly a division into those cases where:

1. The lachrymo-nasal duct is obstructed by a turgescence of the entire mucous membrane and not by a local stricture.

2. A stricture consequent upon a cicatricial condition following a chronic nasal catarrh, causing retention and suppuration from retained muco-organisms.

3. Obstruction due to atrophic rhinitis causing not a stricture, but stenosis from contraction of the entire lumen.

4. Periodic epiphora due to acute obstruction from pressure of a hypertrophy of the mucous membrane covering a turbinate, *e. g.*, in damp weather.

5. Neoplasms pressing against the lachrymo-nasal duct, as in syphilis.

6. Local obstruction at the nasal orifice of the duct due to a valve-like flap of membrane, local ulcer or a cicatrix from injudicious application of cauterizants.

8. Cases due to pressure from asymmetry of the face, or local conditions obstructing the canaliculus, no matter what the cause, the character must be recognized and must be removed before this annoying condition can be successfully combatted.

While, therefore, a casual relation unquestionably exists between certain ocular and nasal disorders, it must not be inferred that they are inseparably associated.—*University Medical Magazine.*

THE INCUBATION PERIOD OF INFECTIOUS DISEASE.—Although we are taught that each specific disease has its particular period of incubation, it must be admitted that the point is not one that admits of dogmatic assertion. It is virtually admitted that the period in every instance comprises tolerably wide limits of time, and owing to the extreme and insuperable difficulty of establishing the precise moment of infection, the matter is obviously one which must be considered as open to question. It has been suggested, not without a show of reason, that the duration of the period of incubation depends less on the nature of the disease than upon the quality of the "soil," *i. e.*, the individual susceptibility to the particular poison, and to the dose of the poison. We know as a matter of scientific observation that the period of incubation after experimental inoculation of the virus is markedly less than when the disease is contracted in the usual way. This would seem to bear out the contention that the dose of poison has a powerful effect in abridging the period of incubation. The point is important because some stress is apt to be laid on the supposed duration of the period of incubation in the diagnosis of certain diseases—at most an uncertain, and often a fallacious, guide.—*Medical Press and Circular.*

ACCESS TO THE BLADDER.—The relative advantages attaching to the modes of reaching the bladder by the suprapubic and the perineal operations respectively has of late years, since the introduction of the first-named method, become a frequent topic of discussion among surgeons; and the question was once more revived at the meeting of the Royal Medical and Chirurgical Society during the past week. Mr. Bryant described a case of fibrous polypus of the prostatic urethra, which he had been able to relieve with complete success after exploring the urethral canal through the perineum; and in giving an account of the treatment he especially insisted on the fact that this would have been utterly abortive had the newer method of incision in the suprapubic region been adopted in the case, as he would thereby have been prevented from discovering the nature of the obstruction to micturition, which consisted of a large polypus growing in the floor of the urethra, and which could not possibly have been reached from above. Mr. Reginald Harrison also spoke in condemnatory terms of the modern operation, affirming that its greater fatality is due to the fact that it is resorted to in many cases in which it has been inapplicable. In cases of bleeding consequent on growths in the prostasic urethra, he thought the perineal method of exploration ought always to be adopted; and other speakers seemed by the general tenor of their remarks to hold a similar opinion. There is undoubtedly sufficient ground in the histories of the unsuccessful results in this connection to justify the suspicion that there may be reasons against the operation itself which will explain the frequent unfortunate issues. It is also very probable that the larger facilities the newer method appears to offer for operative procedure may sometimes encourage resort to it under conditions that might well be held to be doubtful by very cautious surgeons; and if the whole question were now to be discussed in the light of the most recently acquired experience, it would probably lead to the formulation of definite and valuable rules for future guidance.—*Medical Press and Circular.*

ABDOMINAL MASSAGE.—This excellent mode of treatment has won its way into favor with scientific physicians in all parts of the world, and at the present time no one would think of denying its great value in certain forms of abdominal disorders, particularly those of the bowels and visceral prolapse.

A great variety of procedures have been proposed for the application of massage to this portion of the body, one of the most recent of which is what is known as Sahli's method, which consists of the application to the abdominal walls of a cannon ball with a rolling movement, the patient lying upon the back. Ivanoff has suggested the employment, as a substitute for the cannon ball, of a hollow wooden or celloidine globe partially filled with shot. The use of bags partly filled with shot has also been suggested, and the writer has made extensive use of both the cannon ball and the shot-bag with excellent results. The advantage of this method is that the patient can use it himself, although of course it can be more advantageously employed by an attendant. The cannon ball and shot-bag are of special service in cases of atony of the stomach and bowels. For the relief of the last-named condition, the most prominent symptom of which is constipation, due to the lack of ability of the muscles of the colon to contract upon the contents of the bowels, the ball or bag should be applied first to the lower part of the abdomen on the right side. It should be rolled upward to the ribs, then across the body, then down upon the opposite side, continuing on in a nearly circular movement. The application is best made before breakfast or half an hour after breakfast.

In cases of dilatation of the stomach, or gastric insufficiency, in which the muscular structures of the walls of the stomach are unable to expel the contents of the organ at the proper time, so that the food, being too long retained, undergoes fermentation, the movement should be similar, but in the opposite direction. The ball, being applied first upon the left side, upon a level with the umbilicus, is moved

upward close under the ribs of the left side to the epigastrium, and down upon the opposite side on a level with the umbilicus, continuing the movement as before. To aid the stomach in ridding itself of its contents, the application should be made about three hours after eating. The writer has found this an excellent means of relief in cases in which gastric insufficiency is a marked feature. The shot-bag may be used precisely in the same way as the cannon ball or the hollow globe filled with shot. Manipulations may be made with the hands in such a way as to accomplish the same purposes. For manual massage, however, an attendant is of course indispensable.

Abdominal massage is beneficial in a great number of other conditions besides those mentioned. The following are some of the leading therapeutic effects which have been demonstrated as resulting from the proper application of the abdominal massage:

1. The contents of the abdominal canal are moved onward.
2. The portal circulation is accelerated, and also the circulation of the lymph in the lymphatic channels.
3. Absorption is stimulated by increased activity in the portal circulation.
4. The production of gas is diminished and its expulsion encouraged.
5. The respiratory movements are increased, thus relieving hepatic congestion, and general visceral congestion in the abdomen.
6. The nerves and nerve centers of the abdominal sympathetic are stimulated, and thus the vital activity of all the abdominal viscera is accelerated. — *Modern Medicine and Bacteriological World.*

Position of the Tongue in Peripheral Facial Palsy.—Most authors have described the tongue as being perfectly straight in paralysis of the facial of peripheral origin. Erb and others have put the description of a position of deviation down to erroneous observation, inasmuch as the act of opening the mouth leads to a reaction towards the sound side, and when the tongue is pushed out its edge appears nearer the paralyzed angle, thus giving the appearance of an oblique position. Others hold that it points sometimes to the one side, sometimes to the other. Hitzig, in a recent note, is of opinion that the tongue in slight cases of peripheral paralyses never deviates to the one side or the other. In severe and long continuing cases, on the other hand, from fracture of the base of the skull and other causes, it may deviate considerably towards one side, but that side is without exception the sound and never the paralyzed side. In all these cases the mouth is drawn in a marked manner toward the unaffected side. The tongue should not be in the middle of the mouth, but more to the paralyzed side; it stands, however, so that its edge does not touch the mouth angle. If now the mouth is drawn by the finger into the straight position and the tongue protruded, the median line is assumed by the organ. The oblique position of the tongue is therefore a consequence of the obliquity of the mouth, and not the result of paralysis of any muscle. Moreover it actually does deviate in many cases, contrary to the teaching of many writers. Hitzig's explanation is that the tongue normally holds a definite position to the angles of the mouth, and in facial paralysis it involuntarily retains this relation. —*Berlin. Klin. Wochenschr.—The Practitioner.*

Œsophageal Auscultation.—The anatomical position of the œsophagus within the thoracic cavity brings it into close relationship with the other chest organs. Looked at from the larynx, trachea and lungs, which are in its immediate neighborhood in the upper part of its course, the œsophagus runs farther downwards close by the base of the heart, along the line of the aorta. A consideration of this relationship induced Dr. A. Hoffmann, of Düsseldorf, two years ago, to make auscultatory observations through the œsophagus. He made use of a soft stomach tube, such as is in common use for the purpose of lavage. The upper end of this was furnished with a short, thick glass tube, to the upper end of which again was cemented an ear-plate. The tube itself was furnished from its point with centimetre markings, so that one could at any time readily judge by a simple glance how many centimetres the point of the sound had passed beyond the teeth. In the course of the last two years, in most of the patients in whom he has washed out the stomach, he has done so with the gum elastic tube described, and at the end of each lavage, when the stomach was empty, he has substituted for the usual glass tube connecting the sound with the funnel, the glass tube with attached ear-plate. When the plate is attached to the ear we hear, on gradual withdrawal of the tube with short pauses, a series of different auscultatory phenomena. In the first place we observe a rumbling and gurgling, which arises in the stomach, or in the sound, as the fluid contained there is disturbed either by respiratory or by gastric movements. At the same time, if the sound is still introduced more than forty-five centimetres, that is, with the point still in the stomach, we hear the heart sounds distinctly, especially if the person examined is made to hold his breath for a short time. In the third place, we hear the sharp respiratory murmur arising in the larynx and trachea. If the sound (or, if one may give a name to so simple an instrument, the endostethoscope) is further withdrawn, the heart sounds become still more distinct, and will attain their greatest intensity when the sound is at a depth of only thirty-five to thirty centimetres. If the patient is made to hold his breath, we hear the sounds with startling distinctness; and the systolic sounds are frequently heard as an accentuated double beat; the diastole is less pronounced. Between thirty and twenty-five centimetres the sounds become again softer, and have somewhat altered characters. The double sound is not observed. Higher up, the heart sounds are no longer audible—only the breath sounds. Further observations were made with an elastic gastric catheter instead of a very soft sound. In sensitive patients the pharyngeal mucous membrane was in the first place anæsthetized with cocaine. The instrument was introduced, without previously emptying the stomach, only to a depth of forty centimeters, and then auscultations were made at every five centimetres withdrawal, or even oftener. This method succeeds, especially if patients are examined some hours after a meal, without much difficulty. Should vomiting threaten to occur, the auscultatory apparatus can be laid aside for a time. This expedient is, however, seldom necessary. The result of the examination is identical with that obtained with the soft tube.

It is not yet possible to give a definite opinion of the diagnostic value of this method. This much can be asserted: that in individual cases auscultation of the heart with the endostethoscope cleared up doubtful murmurs. Thus, in one case—that of a baker's apprentice of sixteen years—in which increase of cardiac dulness to the right as far as the mid-sternal line had been observed, but no cardiac murmur could be distinguished at the usual spot of selection for auscultation, œsophageal auscultation revealed a marked præsystolic murmur. A second patient—a butcher aged thirty years—had, according to his statement, been treated for heart disease several years previously. The præcordial dulness was normal, and over the heart there were no murmurs audible, though the first sound at the apex was rough. From the œsophagus a very loud systolic murmur was heard, which had its greatest intensity between thirty-five and thirty centimetres; between thirty and twenty-five centi-

metres both heart sounds were distinct, but the murmur was very faintly audible. It is an important question whether the point of origin of the murmur, or in a word, the special diagnosis, can be established in this way. Obviously this method of examination of the heart can never supercede other methods; on the contrary it will at most be able to supplement them. We need not however be without hope that œsophageal auscultation may also render possible definite conclusions as to the nature of some cardiac lesions. Murmurs of the right heart will seldom be in question. For those, however, which arise in the left heart, in consequence of the anatomical position of the œsophagus, there are ascertained points of observation for arriving at a decision. With a deeply introduced probe one auscultates in the first place the descending aorta, and hears any murmurs (stenotic) propagated along the same. But at that spot also murmurs will be communicated from the base of the heart; and become better marked higher up. Still higher, beyond the cardiac region, the aorta only is auscultated. A definite point for the diagnosis of the place of origin of the murmur will be given therefore according to the spot where the murmur has its greatest intensity, as well as according to the character of that murmur, whether it be systolic, præsystolic, or purely diastolic. Auscultation of aortic aneurysms by this method is not without danger, and must only be undertaken with the greatest caution. Accidental murmurs, such as those due to chlorosis, were also detected by Dr. Hoffmann with the œsophageal instrument, but less distinctly than by means of auscultation through the chest wall. Whether endostethoscopic auscultation of the larynx, trachea, lungs, or stomach is likely to prove of special diagnostic interest, cannot yet be decided from the small number of patients who have been examined in this direction.—*Centralblt. f. klin. Med.—The Practitioner.*

THE VALUE OF GELATIN AND GELATIGENOUS FOODS.—Although gelatin is an albuminoid, rich in nitrogen and in many ways closely related to albumin, it cannot take the place of the latter in a normal diet. It is, however, a natural ally and companion of proteid matter and when administered with the latter as a part of the daily food, nitrogenous equilibrum is established with a smaller quantity of proteid than when the latter food is taken alone. If, on the other hand, gelatin or gelatigenous foods only are fed then death speedily follows from nitrogen starvation. This condition of things is certainly very suggestive as showing the need of the animal organism for a certain form of nitrogen; a need which can be wholly supplied only by proteid matter. One reason why gelatin cannot take the place of albumin in repairing the waste of the tissues is to be found in its rapid and complete transformation within the body into katabolites which are eventually excreted in the form of urea. In other words, gelatin is *quickly* and completely broken down into waste products.

While therefore, gelatigenous foods have little or no *direct* value as a part of normal diet, it is not to be assumed, as has been sometimes done, that they are wholly worthless and devoid of all nutritive properties. Collagenous foods, under the influence of the acid gastric juice, are quickly swollen up and are eventually transformed into soluble and diffussible products—gelatoses and gelatin-peptone—which are rapidly absorbed. Further, when once acted upon by gastric juice, they are similarly digested by the alkaline pancreatic fluid, and hence run little risk of passing through the alimentary tract unchanged. Gelatin itself is equally digestible in gastric and pancreatic juice, but collagenous matter can be dissolved by the pancreatic ferment only after it has been subjected to the preliminary influence of acid fluids. The real value of gelatine as a food lies in its ability to protect and diminish the consumption of the more important proteid foods. This power rests primarily upon the ease and rapidity with which it is decomposed within the body, giving it value as a substitute in a limited sense for albuminous matter, the metabolism of which, as already stated, it diminishes. Its value, however, is limited since it cannot be utilized for the purpose of building up or repairing the tissues.

Containing a somewhat greater proportion of nitrogen than the ordinary forms of animal proteids, gelatin yields a larger amount of urea by decomposition and consequently when ingested, especially in large quantities, may give rise to an excessive elimination of urea, inducing thereby increased diuresis and consequent thirst and demand for fluid. Further, Schiff is authority for the statement that gelatigenous substances promote the secretion of gastric juice, and that consequently they belong to the group of peptogenic foods.

Gelatin has also been observed to produce a slight diminution in the metabolism of non-nitrogenous foods; hence, as stated by Yeo, "it may be accepted as a practical conclusion that gelatin is an 'albumin-sparing' food and that alimentary substances containing it tend to prevent the destruction of albuminates and fats." Especially useful is gelatin in cases of fever where the stability of the "organic albumin" is threatened, and under such circumstances the capacity for assimilating proteid food is greatly diminished by the addition of gelatin to the naturally light diet of the fever patient.

Without doubt, the efficacy of properly made beef tea as a nutrient is partially due to the gelatin it contains, for gelatin taken in this form, or indeed in the form of jellies, is well tolerated and easily digested. As Germain Sée has well said, gelatin may be taken in large quantity with impunity, and is to be looked upon as "an auxiliary means of conservation of our tissues. From this point of view, gelatin cannot be too strongly recommended, prepared in the most various forms and with a variety of flavors." Further, under all circumstances, as a constituent of soups and broths, it occupies an important position among animal food-stuffs as an agreeable albumin-saving nutrient.—*The Dietetic and Hygienic Gazette.*

THE PASSAGE OF MICROBES THROUGH THE SKIN.—Wasmuth describes experiments made both upon lower animals and upon man to determine the extent to which different microorganisms can penetrate the skin. In man the pure culture of staphylococcus was rubbed into the arm; in animals, the cocci of erysipelas and anthrax. If the cultures were merely spread upon the skin, negative results were produced. By rubbing, it was found that the uninjured skin was permeable to these organisms, and that after they were introduced in this way, characteristic local and general disturbances were produced. The bacilli enter between the sheath and the shaft of hairs and not through the openings of the sweat or of the sebaceous glands.—*Boston Med. and Surg. Jouunal.*

SUSPENSION IN CHRONIC MYELITIS.—Kirchner (*Berliner klinische Wochenschrift*) reports a case of chronic myelitis in which complete cure followed treatment by suspension. The disease had commenced about a year before admission to the hospital, with loss of power and pain in the extremities. The reflexes were lost, and the muscles showed slight atrophic changes. There was also slight impairment of the mental power. After fifty suspensions the gait became normal, and the reflexes returned, the right knee-jerk being somewhat more feeble than the left. The patient was discharged as completely cured.—*University Medical Magazine.*

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SATURDAY, APRIL 22, 1893.

THE TREATMENT OF ASPHYXIA NEONATORUM.

Whatever theory may be accepted regarding the cause of extra-uterine respiration, the first effort of the physician in a case of suspended animation is to excite respiratory action.

This latter is usually accomplished by some method of exciting reflex action, such as slapping the child, irritating the fauces by means of the little finger introduced into the mouth—a measure that tends to remove any mucus that may be therein contained, dipping the child alternately into hot and cold water, friction, hot or cold rectal injections, or insufflation by means of the mouth of the accoucheur applied to the cleansed mouth of the infant. To accomplish insufflation various instruments have been invented, such as PIA'S, CHAUSSIER'S or DEPAUL'S tubes, that are curved hollow canulæ that may be introduced into the trachea. GAIRAL'S œsophore is virtually the same thing, as is also RIBEMONT'S laryngeal tube, though this latter is furnished with a rubber bulb for insufflating. PROS DE LA ROCHELLE'S insufflator or WOILLEZ'S spirophore have nothing to commend them. In fact, no instrument is satisfactory, for the obstetrician must, if possible, have a method of artificial respiration that is always practicable and handy. Such methods have been suggested by various physicians, and all have met with more or less favor.

MARSHALL HALL placed the child on its back with the head raised, and rolled the trunk from side to side so as to compress and relax the chest, thus permitting the escape of fluids from the lungs; but CHAMPNEY has shown that it did not secure the ventilation of the lungs that was obtained by other methods. SYLVESTER placed the child in the same position, seized both hands or forearms in one hand, and extended them above the head and brought them down again to the sides at the rate of twelve to sixteen times a minute. HOWARD placed the back of the child on his left arm with the head downward so as to open the larynx, and with the right arm the chest walls were alternately compressed and relaxed. PACINI placed the child on its back, and with the hands inserted in the dorsal aspect of the axilla pulled the shoulders alternately upward and downward. BAIN modified this latter procedure by placing the fingers in the anterior aspect of the axillæ with the thumbs over the outer ends of the clavicles. BYRD placed the back of the child's trunk on the palms of the hands, and alternately extended and flexed the head and lower extremities, while SCHROEDER advocated a similar movement with one hand under the head and the other under the buttocks. SCHULTZE held the child by means of the forefingers in the axillæ, the remaining fingers clasped across the child's back and the head steadied between the wrists. Then bending forward so as to hold the child in a vertical position with the feet near the floor, the weight of its body produces an inspiratory movement, when the operator straightens his body he swings the child forward, causing it to double up so that the legs and buttocks fall over upon the front of its thorax, producing an expiratory movement. The child should be dipped into hot water after every dozen movements, so as to partially restore the heat that is lost by swinging it in the air.

J. HARVIE DEW recently described a method in which the neck of the infant is grasped between the thumb and forefinger of the left hand, the head falling over backward so as to hold open the epiglottis, and the back resting in the palm of the hand. The knees are grasped with the right hand so that the right rests between the thumb and forefinger, the left between the fore and middle fingers. Then with the left hand the dorsal region is bent backward and the pelvis and lower extremities are depressed so as to cause inspiration; to cause expiration, the shoulders and chest are carried forward in the left hand bringing the thighs forward with the right hand and doubling them upon the abdomen, these movements being alternated.

W. E. FOREST lays the child on its face for an instant with the head and thorax lower than the pelvis, making quick but not violent pressure on the child's back to expel any fluids from the mouth. He then places the child in a sitting posture in a pail or tub of water that is as hot as can be comfortably borne; the child's head rests between the thumb and forefinger of one hand, the back being supported by the palm thereof, the childs hands with the palms to the front are held in the other hand, and are carried upward until the child is suspended by the arms, the buttocks being just raised from the bottom of the pail. In this position the child's head falls back, the operator leans forward, and, mouth to mouth, blows into the child's lungs. The child's arms are

then lowered until they rest across the front of the thorax, and its body is doubled forward and compressed between the operator's hands so as to expel the air from the lungs. These movements are rhythmically repeated at the rate of forty per minute until respiration is established.

FOREST's method seems the most practicable and desirable because it directly insufflates the lungs, it causes movements that increase the diameters of the thoracic cavity, and the child's temperature is kept at or above 100° F., thus avoiding the impediment to the heart's action that cutaneous cooling produces. CHAMPNEY's experiments showed that an appreciable amount of air could only be introduced into the collapsed lungs of a new-born infant by SYLVESTER's or SCHULTZ's methods or by intra-tracheal catherization with air insufflation. The latter end is attained in FOREST's method by mouth insufflation; and his method avoids the cooling of the child's body that occurs while SYLVESTER's method is practiced, or the violence of SCHULTZ's method that may, as PROFESSOR LUSK has stated, cause fatal shock in very weak infants.

A MARINE BIOLOGICAL LABORATORY.

In the *Popular Science Monthly* for February, 1893, PROFESSOR C. O. WHITMAN, of the University of Chicago, directs the attention of the public to the project which has for its aim the maintenance and liberal endowment of a grand national seaside biological laboratory. PROFESSOR WHITMAN is peculiarly fitted to speak upon this subject, since he has, for some time, appeared as the champion of the cause he now advocates; he has, in fact, taken up the work begun by AGASSIZ and BAIRD, and carried it to a much broader scope. Essentially, the plan consists in the maintenance of the Marine Biological Laboratory as a grand, non-sectarian center for biological research; a center to which each of the biological departments of our colleges and universities may have access, and in which a corps of trained instructors, trained investigators and advanced students may carry on their studies with all the advantages of a marine laboratory. The object of such studies will be purely scientific, not utilitarian. The marine laboratory, as it now exists, was founded by private enterprise, and is maintained by private donation and by the contributions of interested institutions. The Marine Biological Laboratory is located at Woods' Holl, Massachusetts, a location offering many advantages for a central organization, as PROFESSOR WHITMAN clearly points out. At present it is in coöperation with some fifteen American institutions of learning, and among this number it is particularly significant to the medical profession to find the Harvard Medical School. The attendance during the year of 1892 was one hundred and ten students and investigators, representing fifty-two colleges and universities. Thirty-five rooms with full equipment for independent research, and five general laboratories for the use of students and beginners, are at present provided. Everything about the institution indicates a healthful, enthusiastic growth. Already the scientific work of the Marine Biological Laboratory has won distinction for itself and for its supporters. An idea of the scope of the work of this institution may be obtained from the published summer lectures, which are edited under the supervision of PROFESSOR WHITMAN.

Notwithstanding its remarkable beginning, the needs of this enterprise are numerous. More institutions should unite with the observatory, and lend their influence, support, and students to its work. A number of branch observatories at various points on the Atlantic and Pacific sea coast should be established. A reference library of the most complete kind should be an integral part of the station. Laboratory equipment of the most approved character, for all lines of morphological and physiological research, should be provided. Liberal salaries for teachers and for original investigators should be paid—salaries of so liberal a nature as to make the worker absolutely independent of financial concern. Corps of trained collectors, microtomists, draughtsmen, photographers, lithographers, etc., indispensable to the prosecution of biological studies, should be accessable to the investigator. Boats of various kinds, collecting and dredging apparatus, must be at hand. All of this, and much more is necessary to make a biological observatory which shall be to biology what the great observatories are to astronomy. The prosecution of these plans demands an immense sum of money, most of which must, of necessity, be supplied by individual endowment; but with the recent examples of munificent endowments for educational purposes before us, it does not seem altogether a barren hope to look forward to the day when the needs of this great laboratory will be met by private contributions. The realization of these stupenduous plans of PROFESSOR WHITMAN and his associates, will give to our country the grandest facilities for biological research the world affords. This is the opinion of such men as HUXLEY, VOGT, DOHRN, HAECKEL, LANKASTER, WEISMANN, LEUKART, GEGENBAUR, and other leading scientists, who write commending the enterprise. The article of PROFESSOR WHITMAN, together with the letters of the biological leaders above noted, must arouse the enthusiasm of every cultured mind.

This noble undertaking appeals to the scientific physician with peculiar force, for the educated physician of to-day is a true biologist. The problems of life and disease as they present themselves in his daily work, impress upon the thoughtful medical man

the great need of a wide knowledge of structure and of function as presented by the whole organic world, as a key to the numerous problems which confront him. The opportunities of the marine biological observatory in comparative physiological research are clearly recognized by its founders and most strongly set forth in the excellent letter of CARL VOGT to PROFESSOR WHITMAN. What can interest a thoughtful physician more than a laboratory in which the problems of life are to be solved by an extensive series of physiological researches on entirely new lines? And does it not seem that this work must be but the initiatory step to a study of *disease* in the same direction? If this be true, then *comparative pathology* will develop into a most productive and important branch of investigation in this great center of research.

Even as it now stands, the Marine Biological Laboratory calls for the hearty support of the medical profession of this country. The necessity of biological study preliminary to medicine is generally recognized, even to the extent of providing pure biological instruction in medical colleges, to supply the deficiency of students not previously trained. This then, must bring the leading medical schools and the biological schools in close harmony, and it must bring these medical colleges in a line with the Harvard Medical School, in entering into coöperation with the biological observatory. With the facilities of an institution of this kind at hand, what an opportunity for the advanced student of medicine, the medical teacher, and the medical investigators! The effects of the coöperation of medical schools with the biological station would, in itself, have a most salutary effect in medical education. Let us hope that the eloquent plea of PROFESSOR WHITMAN may be full of suggestions to the physicians of this country, and that they will unite in this commendable effort to advance biological science. Let the medical colleges and medical societies of this Nation show their appreciation of this wonderful project, so full of scientific promise, by securing a direct union with the observatory.

PROFESSIONAL UNITY.

The trend of thought in this, the last, decade of the nineteenth century is in the direction of association and combine in order to the attainment of supreme results. These combines pertain to capital, which finds its most profitable use and power in corporations, trusts, systems and consolidations. Labor of all classes recognizes its imbecility in individuality of action, and strength to accomplish given purposes by means of aggregating in the form of associations and unions.

The great charity organizations of the cities are now sustained through associations, and do not depend upon individual philanthropy.

The establishment of educational institutions on the sole basis of a high sounding name, does not meet with popular commendation, and among those that have an existence there is found a sentiment looking towards a combine with others in order to the creation of a greater than either. Financial and intellectual economy are the prime motors in all these movements. In religious circles, churches and denominations, revise their peculiar distinctive creeds, in order to afford opportunities to do the greatest good to the greatest number, and to increase their adherents. The Bible has been revised from the first to the very last chapter in order to meet the demands of crucial scholarship.

New medical societies when found necessary to meet the wants of the medical profession are organized with brief but liberal constitutions. This liberality consists not so much in the explicit conditions that are required of those who are to become members, as of the elimination of conditions.

In the neighboring city of Cincinnati, in all of its history there has existed a conservative, high-toned medical professional life; but in keeping with the spirit of the times during the past decades there has been a tendency towards segregation, which was manifested in the establishment of several medical colleges and as many medical societies. Recognizing a greater usefulness that was within their reach, the societies have recently formally united. The first fruits of this union, and which were gathered immediately, was found in the ability to purchase very valuable property, which is easily converted into a building well adapted for all needed society purposes. Singly, neither of the old societies felt able to do this, together the project swam as if used to the new element. This is but the beginning of the beneficence of this local manifestation of unity in the medical profession of Cincinnati.

The whisperings that have been as rustlings among the leaves of the trees, are being voiced in tones that will be heard all along the professional lines of more than the land that is commercially tributary to the Queen city. The articulation of those tones is becoming every week more and more distinct, and we hear with reasonable clearness of the proposition to unite all the regular medical colleges in that city, and thus together form one great medical school, which is to be the Medical Department of the Cincinnati University, which is a local institution of learning that has recently received some very handsome favors, with more in sight and that are sure to materialize within a very few weeks.

The unification of the medical societies will strongly stimulate the colleges to do likewise. In no other city within our knowledge is there such a

fortunate condition of all the diverse elements for the formation of a great medical department of a university as in the city of Cincinnati. There seems to be needed but a single waft of a wizard's wand to complete the unity work that has been so auspiciously begun.

The medical profession in a dozen other American cities is not greatly unlike that of Cincinnati in many of the conditions that pertain, and if the local profession in those cities will, Indian fashion, put their ears to the ground and listen attentatively they will hear a low muttering sound that is every day growing louder and more distinct, telling them that if they would keep up with the procession they must fall into line, about face from the old order, and seek for better things in new and closer relations.

* * * * *

There are those and there always will be some who are wedded to the past and its traditions, who are loth to give up a present with its meagre emoluments for a future with its greatly enlarged and golden glory of surpassing brilliancy, who prefer tallow dips to electric lights, stage coaches and canal packets to vestibule palace cars, who are opposed to a revised version of the Bible, to a revision of the Confession of Faith, the creed and new hymns. So there are well meaning and most exemplary physicians who see visions of calamity and professional anarchy in a revision of the Code of Ethics. These misfortunes are but mists of the immagination. Revision of the Bible and of creeds unsettled no man's faith, nor weakened one of the churches, neither will it destroy or weaken the medical profession to look into the sky and observe the signs of the times. Consolidations, trusts, associations, systems, and unifications strengthen both specific and general purposes. Conditions of purpose apply to the medical profession, in all of its material needs, whether they be of a social, educational or business nature. The medical profession is always conservative, and is sometimes charged with being slow in its movements, but there are visible and tangible evidences that it is catching a full breath of the spirit of progress that pervades the intellectual world in this year of our Lord 1893.

CONFERENCE OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.—The third annual meeting of the Conference of State Medical Examining and Licensing Boards will be held in Milwaukee, Wis., June 7, 1893.

The following subjects will be discussed, and we will be glad to have you notify us of your intention to prepare a paper on some one of them, and take part in the discussion of any or all of them. We will also be glad to have you suggest, in advance of the meeting, other subjects you may think it desirable to discuss.

I. The Evolution of State Medical Examining and Licensing Boards.

Their present and prospective influence in elevating the moral and intellectual tone of the profession.

II. Composition of Boards.

(a) The desirable number of members.
(b) The desirable appointing power.
(c) The advantages and disadvantages of separate boards representing the different schools of practice.

III. Provisions of the Various State Laws.

(a) Should the possession of a diploma from a recognized medical school be a prerequisite to appearing before a board for examination?
(b) What reciprocal relations should exist between boards?
(c) Should teachers in medical schools be eligible to membership on State examining boards?
(d) Defects in existing laws, the best law in vogue, the ideal law.

IV. Methods of Conducting Examinations.

(a) How should the examination be prepared?
(b) The scope of examinations.
(c) The minimum and maximum requirements.

JOHN H. RAUCH, M.D., President.
HUGH M. TAYLOR, M.D., Sec'y and Treas.

DOMESTIC CORRESPONDENCE.

Revision of the Code of Ethics.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Dear Sir:—While the question of the revision of the Code of Ethics is under discussion, and before the meeting of the Association in June, I should like, with your permission, to say a few words in relation to the proposition. Most of those who have written on this subject were, as we would express it in California, "forty-niners." They were in at the christening of the child, and what more natural than that they, as godfathers, should remain true to the trust assumed.

If we examine this document critically, one of the best things that we can say of the larger part of it is that it consists of an extensive verbiage which, to say the least, is harmless. In fact, this is the best that can be said of the greater portion of it. No one will question the honest intentions of its authors. But if such minute instructions were necessary fifty years ago to guide the profession and the public (?), that necessity certainly does not exist to-day. The Code is largely a dead letter, and only a short remove from obsolescence. A large percentage of the profession have never read it, and very few are familiar with its contents. Much of its statement seems puerile from the standpoint of to-day. Turn, if the readers please, to Article I and read it carefully. Note the minute directions in regard to the duties of physician to patient. While it is a fact that every intelligent and honorable physician conducts his business toward his patients, instinctively or in self-interest, on the principles there laid down, what is the necessity of telling him or commanding him to follow a course which he would naturally follow if there never had been a code of ethics heard of?

Let us read the first sentence of the Code of Ethics:—"A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge." And further on: "Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health, and the lives of those committed to their charge depend on their skill, attention and fidelity." What important statements these are! Would not the physicians of the United States have been a benighted set, and their

patients have suffered untold and unnecessary miseries, if the sages of the profession, in their wisdom, had not penned these immortal sentences? Benighted Europe still struggles along under the old régimé, with no sages to point out the better way. It is strange that the worshipers at the shrine of the Code have never done any missionary work in foreign lands. But go through the whole Article on "Duties of physicians to patients," and it has the same importance as the sentences quoted. But when it comes to informing patients and the public (who do not know that there is a Code of Ethics) of their duties to the physician and the profession, the climax and profundity of wisdom is reached! As I said in the beginning, these portions of the Code are entirely harmless, save in the waste of paper which is incurred from time to time in reprinting them. And possibly they may have a value as relics.

The Article, "Duties for the support of professional character," is mostly useless verbiage, yet some of its sections contain points about which much discussion has taken place, and contain mandates which have been violated in greater or less degree from the day the Code was written to the present, and this, too, by the leading more than by the lesser lights in the profession.

Section 4 reads: "It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills, inviting the attention of individuals affected with particular diseases; publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases and operations in the daily prints; to invite laymen to be present at operations, etc."

Most of the practices mentioned in this section are reprehensible. But a part of this section has been used from its earliest adoption down to almost the present to prevent or suppress the practice of specialties in our profession. At the time the Code was written specialties were hardly known, and it was supposed that the physician could spread himself over the whole field of medical science. But things have changed since then, and now specialties are the order of the day, yet that portion of the Code remains which says that a man may not, by advertisement in newspaper or private card, call attention to the fact that he treats a special class of diseases. This is violated by thousands of respectable specialists in the United States every day, and nothing is said about it by County, State or National societies. Therefore, is not this part of the Code a dead letter? Why should it remain a part thereof? When the great sages and conservators of wisdom were hard pressed on this subject, they whipped the old nick around the stump by a false interpretation of the letter and spirit of the Code. A man may say that he "limits his practice to certain diseases," but not that the "treatment of certain diseases constitutes his specialty." Tweedle dum, tweedle dee! what a distinction without any difference!

And the Code does not justify any interpretation whatever. Amend the Code in this particular, if we are to have one. Specialists the country over ignore it absolutely.

What about the clause in regard to "offering, publicly, advice and medicine to the poor, gratis?" Is this a dead letter or a living issue? I think it is both. It is a dead letter in that it is ignored, but it ought to be a living issue in that it should be enforced. Who to-day are offering medicines and services gratis to, not only the poor, but to all who will come, and thereby wronging the profession at large out of thousands and millions of dollars annually?—the dispensaries, medical colleges and hospitals of our large cities and medical centers.

Who is it that permits mention of cases in public prints, and unconsciously (?) allows the wily reporter to hold a long interview, which, quite inadvertently, is permitted to get into print also? Some of the leading lights in the profession are not guiltless in these matters.

Section 4, then, contains some wholesome suggestions, but the portion regarding specialties should be wiped out, and, if deemed best, something in accordance with the spirit of the times substituted.

Section 5 of the article under consideration contains the following language: "Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or others." This whole section ought to be expunged from the Code for the reasons, first, that it contains an unjust, illiberal and un-American edict, in disparagement of the inventive genius of the members of the medical and surgical professions; and secondly, in that it is impossible to know when a man is dispensing a remedy or combination of remedies for some peculiar phase of disease, and has not seen fit to communicate the facts to the profession.

Why should not physicians and surgeons be encouraged to bring out their best inventive efforts to devise better instruments and appliances wherewith to treat the afflicted? Why should they not be remunerated for their genius when they give to the less inventive members of the profession valuable instruments and appliances?

The profession simply stultifies itself in this matter. Physician after physician do hold patents for such things, and if they are turned out of medical societies, I have not heard of it. But if physicians are turned out of societies for patenting an instrument, this is only further evidence of the duplicity and insincerity of the champions of the Code; for is it not a fact that the larger part of the instruments and appliances we use are patented? Does any surgeon deprive his patient the benefit to be derived from using a valuable instrument because it is patented? Of course not. Then all admit that it is proper and legitimate to use a patented instrument, provided it was invented by some one outside the profession? Certainly you do.

Therefore see the ridiculous attitude in which the profession is placed by the great patent regulator, the Code of Ethics. (No pun.) Whose surgical chair do you use? Whose surgical pump? Whose batteries? Whose spray apparatus? Whose surgical splints? Whose rubber goods? Whose thermometers? Whose uterine dilators, etc., etc., *ad infinitum?* Are these not all patented? If one secretes or uses stolen goods not knowing them to have been stolen is it not about the same as stealing? Therefore, in order to seem rational and consistent strike out that clause of the Code relating to patents.

As to the administration of secret remedies, the profession to-day has almost given itself over to the administration of compounds about which they know or can know but little. The pharmaceutical houses have taken the profession under tuition and propose to tell them henceforth what to do and how to do it. They have their ready made compounds for all the ills of humanity, labeled, and full directions, concocted in their dark laboratories according to a *secret* method peculiar to each establishment. And I will venture to intimate that those "holdovers" from the carboniferous period and other sticklers for the sanctity of the Code, are drenching their patients with these secret proprietary medicines as freely as the more profane among the profession.

So let the patent section of the Code be placed in the museum as a relic of what might have been.

There are many other points in the Code that would be interesting to consider, but I have touched upon the two most important sections, unless some would consider the

one on consultations more important. For my part I have not thought so.

It is a legitimate question at this point to ask, shall we have a Code? I would say yes. We need a rule, adjusted to common sense and the times in which we live, regulating the matter of advertising. Specialists in the full sense of the word should have the privilege of stating in a respectable manner that they are such. Any physician should have the privilege of stating that he devotes special attention to the treatment of a certain class of ailments. Quackery in advertising should be defined and condemned in the strongest terms, and in this particular some of the language of the old Code is quite pertinent.

We should have a standard regulating the matter of consultations—a standard defining clearly the altitude the attending and consulting physician bear to each other; and one which particularly defends the physician in charge.

I am inclined to think that that section of the old Code bearing on this point meets the case. If I should offer any criticism it would be that it is a little too prolix, as some may may think the present writer is. Into the controversy concerning whom one may consult with, I do not wish to project myself very far. As to the treatment of disease there can be no consultation between regulars and homeopaths as such matters are pre-judged. In matters of surgery, consultations might seem more consistent, as I believe there is no homœpathic surgery. But whether it is dignified for scientific surgeons to affiliate with the pretenders is quite another question; certainly the lines should not be drawn closely in any emergency cases. Broad humanitarian principles should govern in matters like these.

Give us an amended Code brought down to the requirements of the day in which we live. The extremely redundant and useless but harmless verbiage of the old Code might be retained, but it would look and be more like a nineteenth century document if these parts were expunged and the thing boiled down to the essentials.

Most respectfully,

A. C. SIMONTON, M.D.

San Jose, Cal.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Dear Sir.—I have noticed several communications in THE JOURNAL, on this subject. I see nothing in the demand for *revision*, save a down-grade movement, on the part of a few in a single State. These few are dissatisfied, and fail to give even a sensible excuse for being so. They do not give one reasonable objection to the present time honored and perfect Code. *We have no objection to the Code ourselves, and intend to keep it in spirit and letter.* If it does not suit others we pity their depravity, and hope they will leave us alone, and "roost" with their own kind. I concur in all, a conservative member has said in THE JOURNAL of Feb. 11, 1893, and in doing so am not alone in Kentucky, but voice a sentiment of a large number of members from this State.

A KENTUCKY MEMBER.

MISCELLANY.

A BOARD of officers will be convened at Washington, D. C., June 26, 1893, for the purpose of examining applicants for admission to the grade of Assistant Surgeon in the U. S. Marine-Hospital Service.

Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from at least two responsible persons, as to character.

For further information, or for invitation to appear for examination, address the Supervising Surgeon-General U. S. Marine-Hospital Service, Washington, D. C.

MANIFESTO OF THE SECTION ON OTOLOGY, PAN-AMERICAN MEDICAL CONGRESS.—*Honorary Presidents:*—Drs. Adolph Alt, St. Louis, Mo.; Albert H. Buck, New York; Gorham Bacon, New York; Wm. Cheatham, Louisville, Ky.; Francisco de P. Chacón, City of Mexico; Sebastian Cuervoy Serrano, Sancti Spiritu, Cuba; J. C. Connel, Toronto, Canada; Stephen Dodge, Halifax, Nova Scotia; J. B. Eaton, Portland, Ore.; A. A. Foucher, Montreal; John F. Fulton, St. Paul; J. Wilford Good, Winnipeg, Manitoba; Francis P. Loring, Washington, D. C.; Henry D. Noyes, New York; Arturo Costa Pruneda, Santiago, Chili; Charles Inslee Pardee, New York; G. Sterling Ryerson, Toronto, Canada; D. B. St. John Roosa, New York; W. H. Sanders, Mobile, Ala.; Belisario Sosa, Lima, Peru; G. C. Savage, Nashville, Tenn.; J. J. Vernmyne, New Bedford, Mass.

Executive President:—Dr. C. M. Hobby, Iowa City, Iowa.

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The Section of Otology has been rendered necessary by the fact, that while the treatment of diseases of the ear has in the past been mainly in the hands of ophthalmologists, the recent advances in the study of diseases of the nose and pharynx has necessarily divided the practical work of treatment of the diseases of the ear; so that at present we find these diseases considered by both ophthalmic and rhinologic surgeons. It is hoped that in this Section surgeons of both classes may meet, and to this end the effort will be made to secure hours not conflicting with either of the other Sections.

Communications in reference to papers should be addressed to the English speaking secretary, Dr. Max Thorner, 141 Garfield Place, Cincinnati, O., suggestions as to work and exhibition of instruments to the executive president, Dr. C. M, Hobby, Iowa City, Iowa.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 8, 1893, to April 14, 1893.

First Lieut. Charles F. Mason, Asst. Surgeon U. S. A., will proceed to New York City, on Monday, April 14, 1893, and report in person to Col. Charles H. Alden, Asst. Surgeon-General, President of the Army Medical Board in that city, for examination by the Board, with a view of determining his fitness for promotion.

Capt. Daniel M. Appel, Asst. Surgeon U. S. A., will be relieved from duty at Ft. Bliss, Tex., as soon as possible after the receipt of this order, and will then proceed to Chicago, Ill., and report in person to the commanding General, Dept. of the Missouri, for assignment to duty pertaining to the World's Columbian Exposition, as attending surgeon for the officers and enlisted men on duty in the Exposition grounds.

Major Edward B. Moseley, Surgeon U. S. A., will be relieved from duty in the office of the Surgeon-General of the Army, not later than May 1, 1893, and will report in person to the commanding officer, Ft. Monroe, Va., for duty at that post, to relieve Capt. Adrian S. Polhemus, Asst. Surgeon.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for the Week Ending April 15, 1893.

Surgeon C. G. Herndon, detached from the Marine Rendezvous, New York, April 12, and placed on waiting orders.

Surgeon N. H. Drake, ordered to the Marine Rendezvous New York.